ORDER NO. KM49611109C3

Service Manual

and Technical Guide

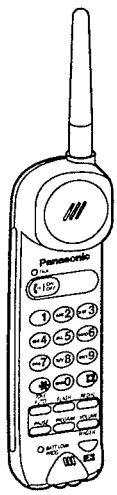
Telephone Equipment

SOUND CHARGER PLUS

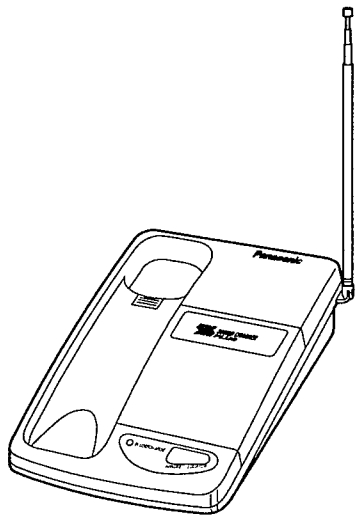
Cordless Phone

KX-T4026SA

(for South Africa)



(KX-T4026SAR)



(KX-T4026SAH)

■ SPECIFICATIONS

General

Modulation:	FM, 5 kHz Deviation	Pause:	3.5 seconds per pause
Frequency Stability:	±2.5 kHz	Memory Capacity:	10 telephone numbers, up to 16 digits per station
Dial Type:	Tone (DTMF)/Pulse		
Redial:	Last dialed number each time the Redial button is pressed		

	Base Unit (KX-T4026SAH)	Portable Handset (KX-T4026SAR)
Power Source:	AC adaptor KX-A09BMX-2 (DC 12 V)	Built-in rechargeable Ni-Cd battery (PQXA36ASVC)
(Receiver Section)		
Receiving Frequency:	7 channels within 49.67~49.97 MHz	7 channels within 46.61~46.97 MHz
Adjacent Channel Rejection:	40 dB	40 dB
Sensitivity:	1dBμV for 20 dB S/N	2 dBμV for 20 dB S/N
(Transmitter Section)		
Transmitting Frequency:	7 channels within 46.61~46.97 MHz	7 channels within 49.67~49.97 MHz
Jacks:	DC IN, Telephone line	
Antenna:	Telescopic	Rubber Flexible
Speaker:	2" (5 cm) PM dynamic	$1^{3}/_{16}$" (3 cm) dynamic
Microphone:	Condenser microphone	Condenser microphone
Dimensions (H×W×D):	$1^{9}/_{16}$"×5 $^{1}/_{2}$"×$8^{21}/_{32}$" (40×140×220 mm)	$11^{1}/_{16}$"×2"×$1^{15}/_{16}$" (281×51×49 mm)
Weight:	15.17 oz. (430 g)	8.11 oz. (230g) with battery

Design and specifications are subject to change without notice.

Panasonic

©1996 Kyushu Matsushita Electric Co., Ltd.
All rights reserved. Unauthorized copying and distribution is a violation of law.

KX-T4026SA

⚠ WARNING

This service information is designed for experienced repair technicians only and is not designed for use by the general public.
It does not contain warnings or cautions to advise non-technical individuals of potential dangers in attempting to service a product.
Products powered by electricity should be serviced or repaired only by experienced professional technicians.
Any attempt to service or repair the product or products dealt with in this service information by anyone else could result in serious injury or death.

When you mention the serial number, write down all 11 digits. The serial number may be found on the label affixed to the bottom of the unit.

FOR SERVICE TECHNICIANS

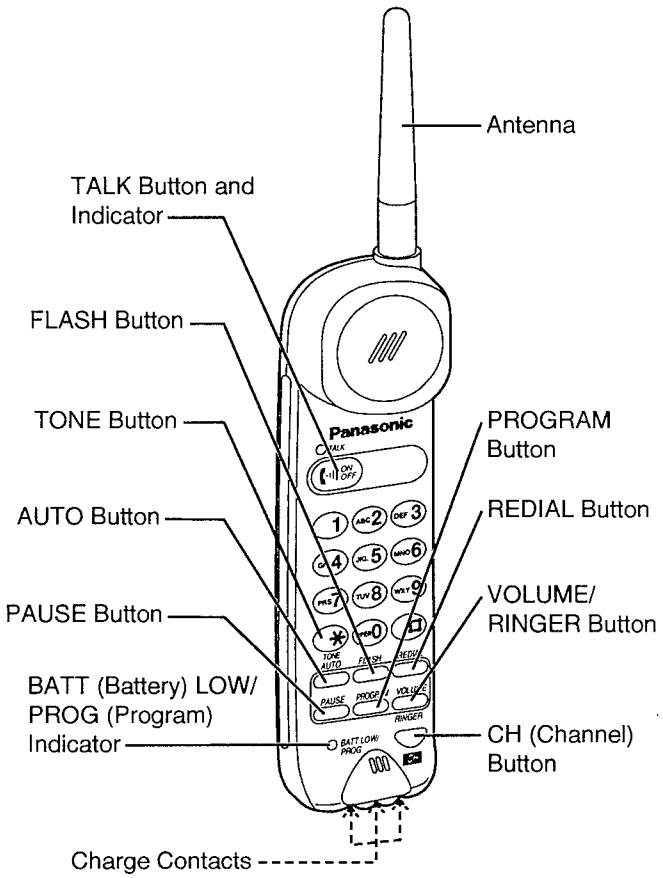
ICs and LSIs are vulnerable to static electricity.
When repairing, the following precautions will help prevent recurring malfunctions.
1. Cover plastic parts boxes with aluminum foil.
2. Ground the soldering irons.
3. Use a conductive mat on worktable.
4. Do not grasp IC or LSI pins with bare fingers.

TABLE OF CONTENTS

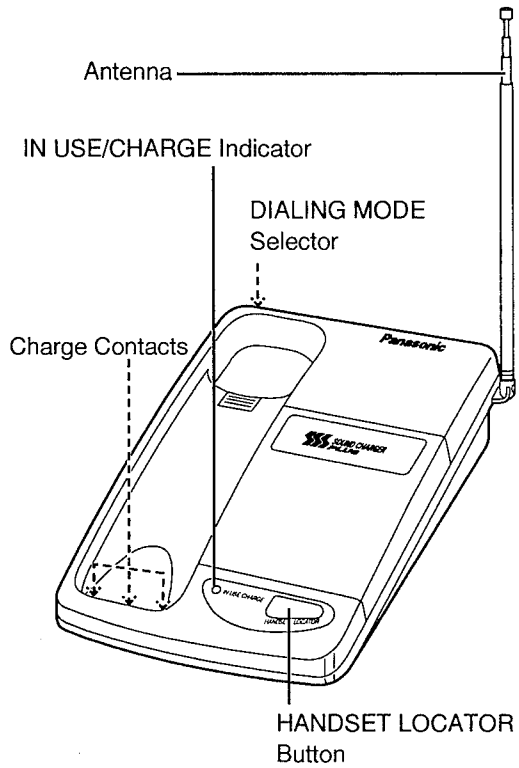
LOCATION OF CONTROLS 3
STANDARD BATTERY LIFE 3
CONNECTION 4
OPERATION ..... 4~6
DISASSEMBLY INSTRUCTIONS 7
HOW TO REPLACE FLAT PACKAGE IC 8
CPU DATA (KX-T4026SAH) 9
CPU DATA (KX-T4026SAR) 10
EXPLANATION OF IC TERMINALS 11
ADJUSTMENTS (KX-T4026SAH) 12, 13
SCHEMATIC DIAGRAM (KX-T4026SAH) 14, 15
CIRCUIT BOARD AND WIRING CONNECTION DIAGRAM (KX-T4026SAH) ..... 17~20
CIRCUIT BOARD AND WIRING CONNECTION DIAGRAM (KX-T4026SAR) ..... 21~24
SCHEMATIC DIAGRAM (KX-T4026SAR) 25, 26
ADJUSTMENTS (KX-T4026SAR) 27, 28
FREQUENCY TABLE 29
RF SPECIFICATION 30
HOW TO CHECK THE PORTABLE HANDSET SPEAKER 30
EXPLANATION OF CPU DATA COMMUNICATION ..... 31~34
BLOCK DIAGRAM (KX-T4026SAH) 35
NEW CIRCUIT OPERATION (KX-T4026SAH) 36, 37
NORMAL CIRCUIT OPERATION (KX-T4026SAH) ..... 38~43
BLOCK DIAGRAM (KX-T4026SAR) 44
NEW CIRCUIT OPERATION (KX-T4026SAR) ..... 45~47
NORMAL CIRCUIT OPERATION (KX-T4026SAR) 48
TROUBLESHOOTING GUIDE 49
TROUBLESHOOTING GUIDE (KX-T4026SAH) ..... 50~52
TROUBLESHOOTING GUIDE (KX-T4026SAR) 53, 54
CABINET AND ELECTRICAL PARTS LOCATION (KX-T4026SAH) 55
CABINET AND ELECTRICAL PARTS LOCATION (KX-T4026SAR) 56
ACCESSORIES AND PACKING MATERIALS 57
REPLACEMENT PARTS LIST (KX-T4026SAH) ..... 58~62
REPLACEMENT PARTS LIST (KX-T4026SAR) ..... 63~66

LOCATION OF CONTROLS

Portable Handset (KX-T4026SAR)



Base Unit (KX-T4026SAH)



STANDARD BATTERY LIFE

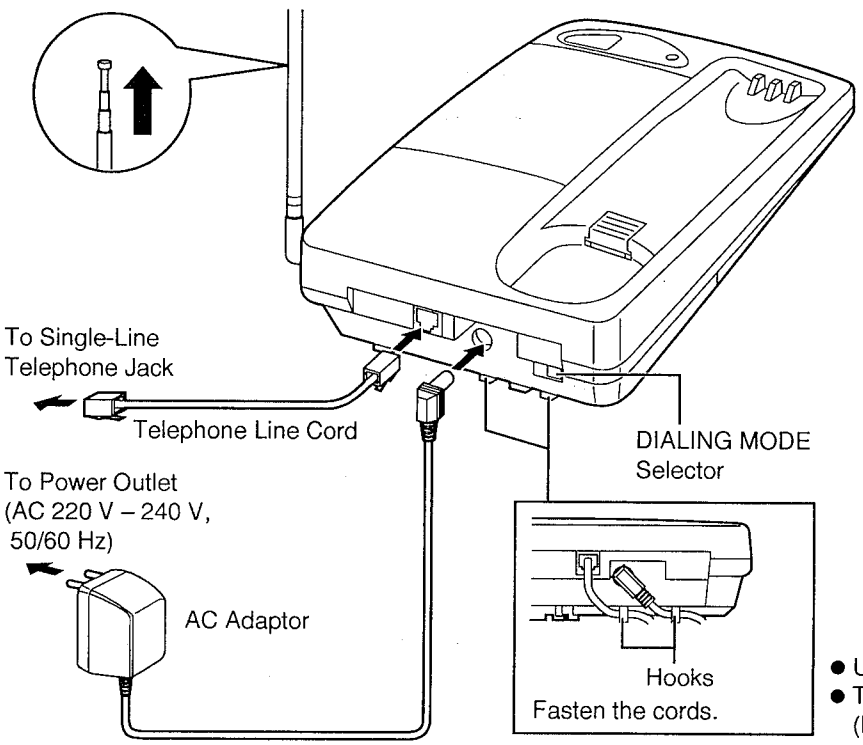
If your Panasonic battery is fully charged;

While in use (TALK)	Up to about 8 hours
While not in use (Stand-by)	Up to about 30 days

- Battery life may vary depending on usage conditions and ambient temperature.
- The battery cannot be overcharged.
- Clean the Handset and the base unit charge contacts with a soft dry cloth once a month, or the battery may not charge properly.
- Once the battery is fully charged, you do not have to place the handset on the base unit until the BATT LOW/PROG indicator flashes.

KX-T4026SA

CONNECTION



This connection is for South Africa version only.

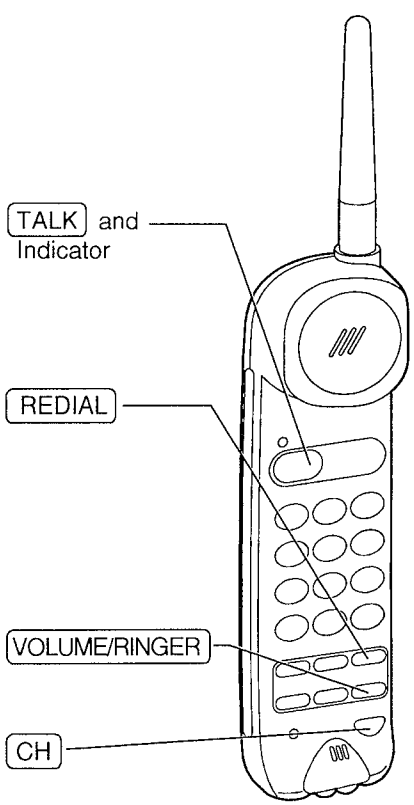
Refer to the simplified manual (cover) for other areas.

- USE ONLY Panasonic AC ADAPTOR KX-A09BMX.
- The AC adaptor must remain connected at all times. (It may feel warm during use. This is normal.)

OPERATION

NEW OPERATION

Making calls with the handset



1 Press (TALK)

- The indicator lights.

2 Dial a telephone number.

3 To hang up, press (TALK) or place the handset on the base unit.

- The indicator light goes out.

New

To redial the last number

Press (TALK) → (REDIAL).

To select the receiver volume HIGH or NORMAL (preset)

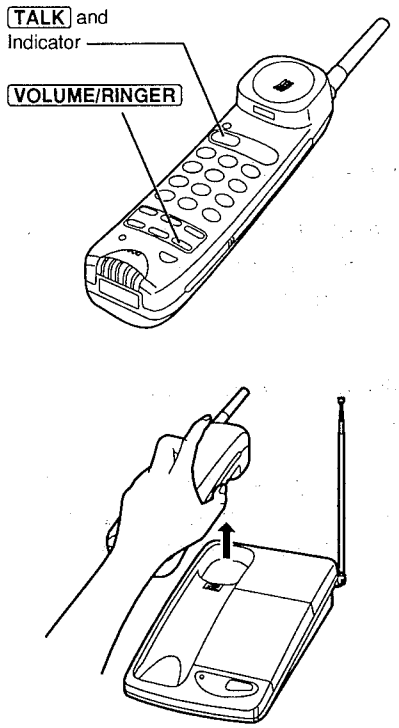
Press (VOLUME/RINGER) while talkin.

- Each time you press, the volume level will change.

If noise interferes with the conversation

Press (CH) to select a clear one of 7 channels or move closer to the base unit.

Answering Calls with the Handset



If the handset is off the base unit, press **TALK**.

OR

If on the base unit, just lift up.

New

Any Key Talk

You can also answer a call by pressing any dialing button (0 to 9, * or #) .

Adjusting the ringer volume

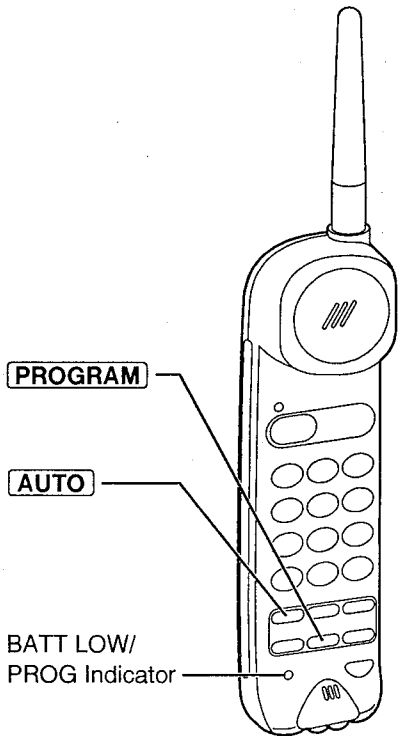
Be sure the TALK indicator light is off.

- **To select HIGH (preset) or LOW,** Press **VOLUME/RINGER**. (Each time you press, the ringer volume will change.)
- **To turn the ringer OFF,** while pressing **VOLUME/RINGER** Press **0** until 2 beeps sound.
- **To turn the ringer ON** press **VOLUME/RINGER**. The ringer sounds at the HIGH level.

NORMAL OPERATIONS

Storing Phone Numbers in Memory

The handset diaring buttons (0 to 9) function as memory stations.
The TALK indicator light must be off.



1 Press (PROGRAM) .
- The BATT LOW/PROG indicator lights.

2 Enter a phone number up to 16 digits.
- If you misdial, press (PROGRAM) to end storing, then restart from step1.

3 Press (AUTO) .

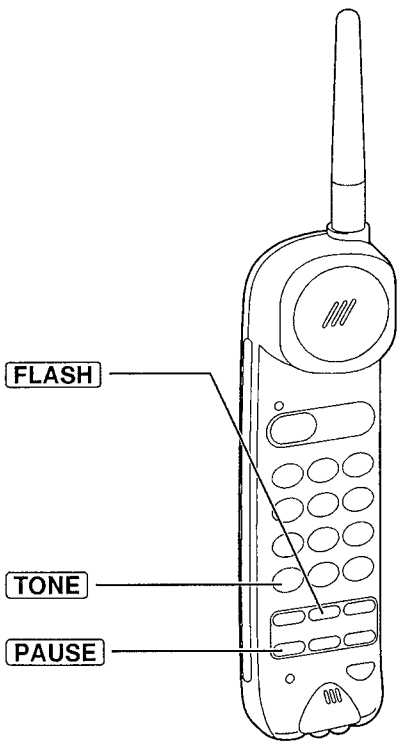
4 Press a memory station number (0 to 9).
- A confirmation tone sounds. (See right side.)
- To store other numbers, repeat steps 1 through 4.

To erase a stored number

press (PROGRAM) → (AUTO) → the memory station number (for the phone number to be erased).

What the confirmation tone means

1 beep: The new number is stored.
2 beeps: The number is the same as previously stored one.



Automatic Security Code Setting

Whenever you place the handset on the base unit, the unit automatically selects one of 65,000 security codes. These codes help to avoid unauthorized use of your telephone line by another cordless telephone.

For Call Waiting Service Users

press (FLASH) Lightly if you hear a call-waiting tone while talking.
- The firet call is put on hold and you can answer the second call.
- To return to the first caller, press (FLASH) again.

Temporary Tone Dialing (for Rotary Service Users)

press (TONE) before entering access numbers which require tone dialing.
- The dialing mode changes to tone. You can enter numbers to access the answering system or electronic banking services, etc. When you hang up, the mode returns to pulse.

If your Unit is Connected to a PBX

We recommend you press (PAUSE) between the access number for an outside line and the phone number.
- Pressing (PAUSE) once creates a 3.5 second pause.This prevents misdialling when you redial or dial a stored number. ((PAUSE) counts as one digit.)

DISASSEMBLY INSTRUCTIONS

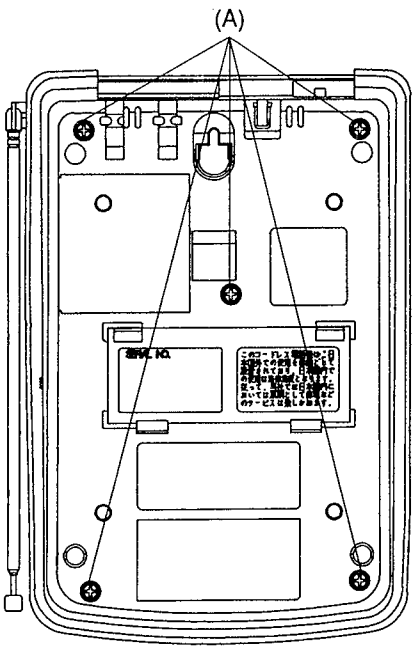


Fig. 1

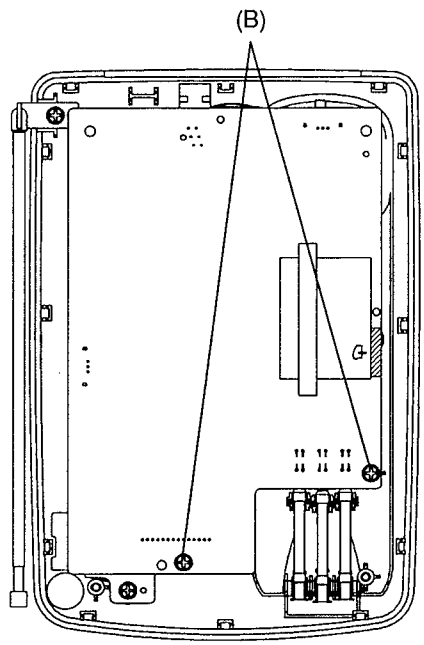


Fig. 2

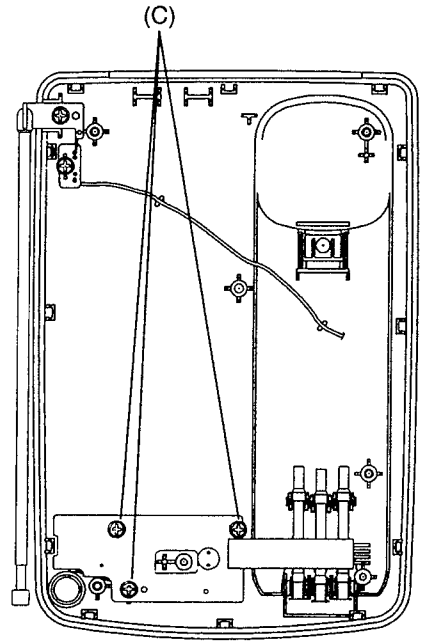


Fig. 3

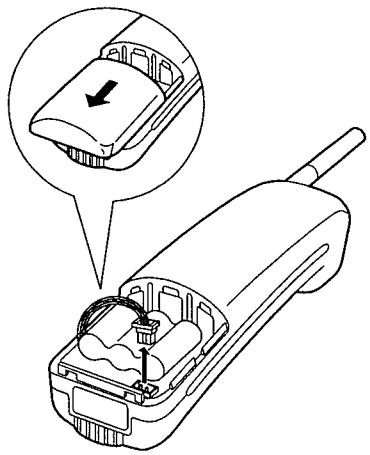


Fig. 4

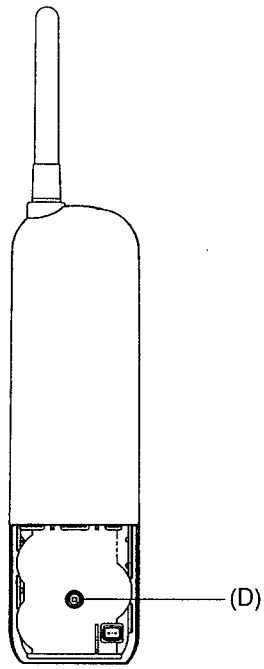


Fig. 5

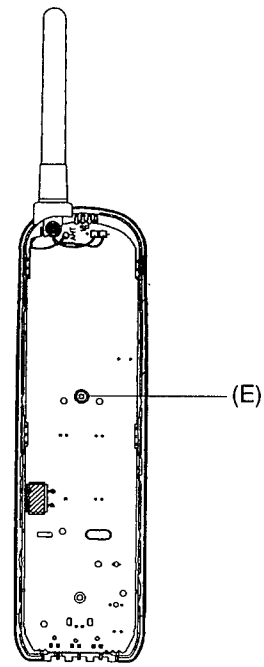


Fig. 6

Ref. No.	Procedure	Shown in Fig.—	To remove—.	Remove—.
1	1	1	Lower Cabinet	Screws (3×14) ..... (A)×5
2	1, 2	2	Main Printed Circuit Board	Screws (3×10) ..... (B)×2
3	1, 2, 3	3	Operation Printed Circuit Board	Screws (3×10) ..... (C)×3
4	4, 5	4	Rear Cabinet	Remove the battery compartment cover
5		5		Screw (2.6×12) ..... (D)×1
6	4~6	6	Printed Circuit Board	Screw (2.6×10) ..... (E)×1

KX-T4026SA

HOW TO REPLACE FLAT PACKAGE IC

n PREPARATION

· SOLDER - - - - - - - Sparkle Solder 115A-1, 115B-1
OR
Almit Solder KR-19, KR-19RMA

· Soldering iron - - - - - Recommended power consumption will be between 30 W to 40 W.
Temperature of Copper Rod 662 ± 50 °F (350 ±10℃)

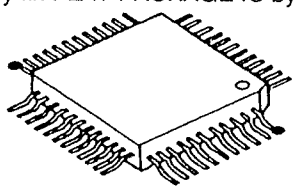
(An expert may handle 60~80 W iron, but beginner might damage foil by overheating.)

· Flux - - - - - - - - - - - HI115 Specific gravity 0.863

(Original flux will be replaced daily.)

n PROCEDURE

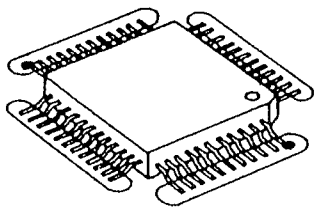
1. Temporarily fix FLAT PACKAGE IC by soldering on two marked pins.

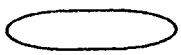


●- - - - - -Temporary soldering point.

*Check accurate setting of IC to the corresponding soldering foil.

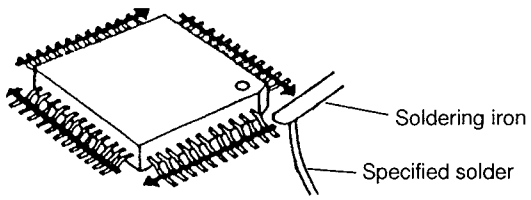
2. Apply flux for all pins of FLAT PACKAGE IC.





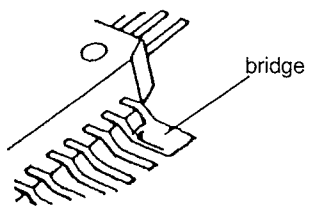
- - - - - Flux

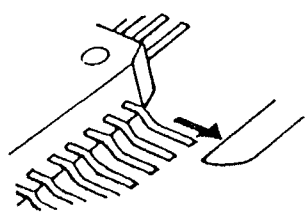
3. Solder using specified solder, in direction of arrow, by sliding the soldering iron.



n MODIFICATION PROCEDURE OF BRIDGE

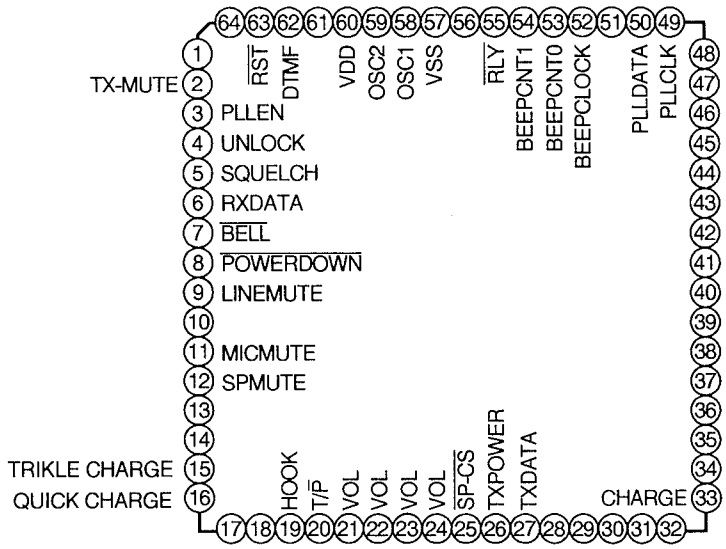
1. Re-solder slightly on bridged portion.
2. Remove remaining solder along pins using soldering iron as shown in below figure.





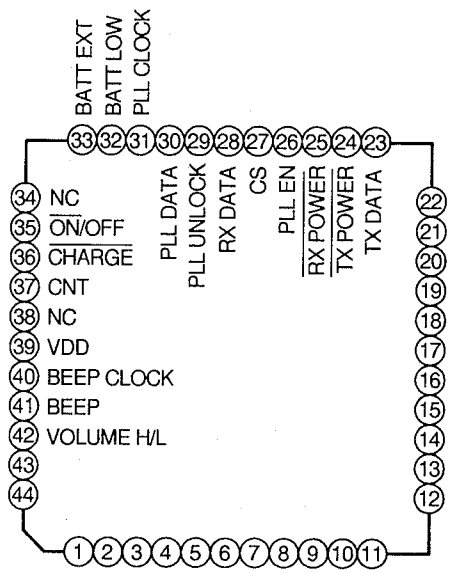
CPU DATA (KX-T4026SAH)

IC5: MN150832KKAF


64 63 62 61 60 59 58 57 56 55 54 53 52 51 50 49
1 RST DTMF VDD OSC2 OSC1 VSS RLY BEEPCNT1 BEEPCNT0 BEEPCLOCK PLLDATA PLLCLK 48
2 TX-MUTE 47
3 PLLEN 46
4 UNLOCK 45
5 SQUELCH 44
6 RXDATA 43
7 BELL 42
8 POWERDOWN 41
9 LINEMUTE 40
10 39
11 MICMUTE 38
12 SPMUTE 37
13 36
14 35
15 TRIKLE CHARGE 34
16 QUICK CHARGE CHARGE 33
17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32
HOOK T/P VOL VOL VOL VOL SP-CS TXPOWER TXDATA

Pin No.	Description	I/O	High	High-Z	Low	Pin No.	Description	I/O	High	High-Z	Low
1	Not Used				Normal	28, 29	Not Used				
2	TX MUTE	O	Mute		Unmute	30~32	Option Storobe	O		Normal	Active
3	PLL EN	O	Active		Normal	33	Charge	I	Charge		Non
4	PLL Unlock	I	Unlock		Lock	34~40	Key Strobe	O		Normal	Active
5	SQUELCH	I	Weak Electric Field		Strong Electric Field	41~44	Key in	I	Normal		Key in
6	RX DATA	I	1		0	45	SP-PHONE LED	O		OFF	ON
7	$\overline{\text{BELL}}$	I	Not Bell		Bell in	46	Line Seizure	O		OFF	ON
8	$\overline{\text{Power Down}}$	I	Normal		Down	47	CHARGE LED	O		OFF	ON
9	Line MUTE	O	Mute		Unmute	48	IN USE LED	O		OFF	ON
10	RX MUTE	O	Mute		Unmute	49	PLL Clock	O	(Active)	Normal	(Active)
11	MIC MUTE	O	Mute		Unmute	50	PLL Data	O	(Active)	Normal	(Active)
12	SP MUTE	O	Mute		Unmute	51	GND	I			
13	Not Used	O				52	Beep Clock	O	(Active)	Normal	(Active)
14	Not Used	O				53	Beep Control 0	O		Max	Min
15	Tricle Charge	O	Tricle		Normal	54	Beep Control 1	O		Max	Min
16	Ultra Charge	O	Ultra		Normal	55	$\overline{\text{RLY}}$	O		OFF	ON
17	Not Used	I				56	IRQ	I	Normal		
18	Not Used	I				57	GND				GND
19	HOOK	I	OFF Hook			58	CPU Clock	I			
20	TONE/$\overline{\text{PULSE}}$	I	Tone		Pulse	59	3.581MHz	O			
21~24	Volume 0~3	O				60	Power Source				
25	$\overline{\text{SP-PHONE}}$	O	OFF		ON	61	SIRQ	I	Normal		
26	TX POWER	O	ON		OFF	62	DTMF Output	O	Normal		(Active)
27	TX DATA	O	1		0	63	$\overline{\text{Reset}}$	I	Normal		Reset
						64	SYNC	O			

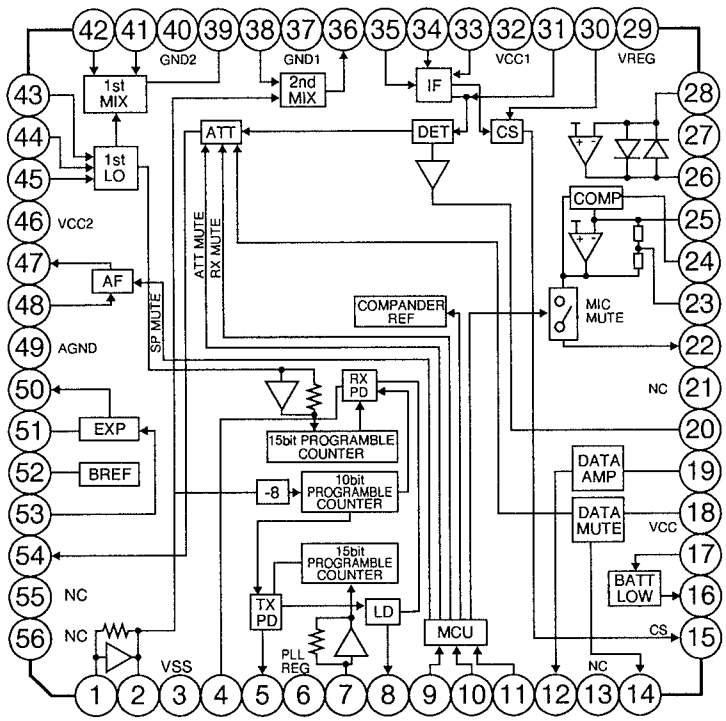
CPU DATA (KX-T4026SAR)



IC4:PQVI0006GE02

Pin No.	Description	I/O	High	High-Z	Low	Pin No.	Description	I/O	High	High-Z	Low
1	Option Strobe 1	O	Normal		Active	25	$\overline{\text{RX Power}}$	O	Off		On
2	Option Strobe 0	O	Normal		Active	26	PLL En	O	Latch		Normal
3	Key Strobe 4	O	Normal		Active	27	SQUELCH	I	Electric Field Low		Electric Field High
4	Key Strobe 3	O		Normal	Active	28	RX Data	I	(Data)		Normal
5	Key Strobe 2	O		Normal	Active	29	PLL Unlock	I	Unlock		Lock
6	Key Strobe 1	O		Normal	Active	30	PLL Data	O	(Data)		Normal
7	Key Strobe 0	O		Normal	Active	31	PLL Clock	O	(Clock)		Normal
8	Key In 3	I	Off		On	32	Batt Low	I	High		Low
9	Key In 2	I	Off		On	33	Battery	I	High		Low
10	Key In 1	I	Off		On	34	Not Used				
11	Key In 0	I	Off		On	35	$\overline{\text{On}}$/Off	I	Off		On
12	Not Used					36	$\overline{\text{Charge}}$ (Battery Terminal)	I	Normal		Charge
13	Not Used					37	$\overline{\text{Charge}}$ (Control)	I	Charger		Base Unit
14	LED (BATT LOW)	O		Off	On	38	Internally Conn.				
15	LED (TALK)	O		Off	On	39	VDD				
16	Not Used	O				40	Beep Clock	O	Normal		(Clock)
17	GND					41	Beep Control	O	Low		High
18	Sub Clock	I				42	RX Volume Selecter	O	Low		High
19	(32.768kHz)	I				43	Not Used				
20	$\overline{\text{Reset}}$	I	Normal		Reset	44	Not Used				
21	Main Clock	I									
22	(3.99MHz)	I									
23	TX Data	O	(Data)		Noraml						
24	$\overline{\text{TX Power}}$	O	Off		On						

EXPLANATION OF IC TERMINALS



Part No. AN6185NFA
IC1: Base Unit
IC1: Portable Handset

Pin No.	Description		Pin No.	Description	
1	2Lo-IN	Second Oscillator Input	29	VREG	Baseband Regulater Output
2	2Lo-OUT	Second Oscillator Output	30	CS-HiCut	Carrier Sens. High Cut
3	VSS	GND for PLL	31	Quad	Quadrature Coil
4	RX-PD	RX Phase Comparison Output	32	VCC1	Vcc1
5	TX-PD	TX Phase Comparison Output	33	IF-PASS	IF Amp. Decuppling
6	PLL-REG	PLL Regulater Output	34	IF-IN	IF Amp. Input
7	fINT	TX Carrier Input	35	IF-PASS	IF Amp. Decuppling
8	LD	Lock Detector Output	36	2MIX-OUT	Second Mixer Input
9	DATA	Serial Data Input	37	GND1	GND1
10	EN	Enable Input	38	2MIX-IN	Varicap Control
11	CLK	Clock Input	39	1MIX-OUT	First Mixer Output
12	DATA-AMP OUT	Data Amp. Output	40	GND2	GND2
13	NC	Not Used	41	RF-IN	First Mixer Input
14	DATA-MUTE CONT	Data Mute Time Constant Adjustment	42	RF-IN	First Mixer Input
15	CS-OUT	Carrier Sensitivity Output	43	VA-CONT	Varicap Control
16	Batt-Lo	Battery Low LED Drive	44	1st-Lo	First Oscillator Tank
17	Batt-CONT	Battery Low Level Control	45	1st-Lo	First Oscillator Tank
18	DATA-MUTE IN	Data Mute Input	46	VCC2	VCC2
19	DATA-AMP IN	Data Amp. Input	47	AF-OUT	AF Amp. Output
20	IF-DET-OUT	IF-DET Output	48	AF-AMP IN	AF Amp. Input
21	NC	Not Used	49	AGND	Analog GND
22	COMP-OUT	COMP Output	50	EXP-OUT	Exp. Output
23	COMP-REF	COMP Output VREF	51	EXP-DET	Exp. Detect
24	C-DET	COMP Detect	52	BREF	Baseband VREF
25	COMP-IN	COMP Input	53	EXP-IN	Exp. Input
26	MIC-OUT	MIC Amp. Output	54	ATT-OUT	Attenuator Output
27	NC	Not Used	55	NC	Not Used
28	MIC-IN	MIC Amp. Input	56	NC	Not Used

KX-T4026SA

ADJUSTMENTS (KX-T4026SAH)

If your unit have below symptoms, adjust each item using remedy column from the table.

Symptom	Remedy
The base unit does not respond to a call from portable handset.	Make adjustments in item(A)
The base unit does not transmit or the transmit frequency is off.	Make adjustments in item(B)
The transmit frequency is off.	Make adjustments in item(C)
The transmit power output is low, and the operating distance between base unit and portable handset is less than normal.	Make adjustments in item(D)
The reception sensitivity of base unit is low with noise.	Make adjustments in item(E)
The transmit level is high or low.	Make adjustments in item(F), (G)
The reception level is high or low.	Make adjustments in item(H)
The unit does not link.	Make adjustments in item(I)

Unit condition:

Remove the antenna from P.C Board of the base unit.

How to set the test mode:

1. CH10 Test Mode

Set S15 to OFF(Power OFF)
↓
- Set S16 and S17 to ON.
- Set S15 to ON.(unit becomes CH10 talk test mode).

2. CH A (5') Test Mode

Set S15 to OFF(Power OFF)
↓
- Set S16 and S17 to ON.
- While pressing S1 and S3, set S15 to ON. (unit becomes CH A (5') talk test mode).

- Every time pressing S3, unit changes as follow.
  Talk → Standby → Talk → Standby
- Every time pressing S2, unit changes as follow.
  CH10 → CH1 → CH2 → CH3 → CH B (4') →CH A (5') → CH C (6') → CH D (7') → CH E (8') → CH9 → CH10
- When setting S15 to OFF, unit releases from test mode.

When replacing these parts, adjust as shown in table below table.

Replace Parts	Adjustment items	Test Mode	Adjustment Point	Procedure
IC1, T5	(A) RX VCO Adjustment	CH10 Talk	T5	1. Set S5 to RX side. 2. Adjust T5 so that the reading of the Digital Voltmeter is 1.8V±0.1 V.
D1 ,D2, T8	(B) TX VCO Adjustment	CH10 Talk	T8	1. Set S5 to TX side. 2. Adjust T8 so that the reading of the Digital Voltmeter is 2.1 V±0.1 V.
CT1, L1, T1, T2, T3, X2	(C) TX Frequency Adjustment	CH10 Talk	CT1	1. Set S7 to ON. (S6, S8: OFF) 2. Adjust CT1 so that the reading of the frequency counter is 46.97 MHz±200 Hz.

When replacing these parts, adjust as shown in table below.

Replace Parts	Adjustment items	Test Mode	Adjustment Point	Procedure
L12, Q5, Q6 Q7, T6, T9	(D) TX Power Adjustment	CH A (5') Talk	T6, T9, L12	1. Set S6 to ON. (S7, S8: OFF) 50Ω — (VV) RF VTVM 2. Adjust T6 and T9 so that the reading of the RF VTVM is maximum outputting (200mV over).
L1, T1, T2, T3	(E) RX Sensitivity Adjustment	CH C (6') Talk	L1 T1, T3	1. Set S9 to ON. 2. Apply a 40dB μVemf output from S.S.G. (modulation frequency 1kHz, dev. 3kHz). 3. Adjust L1, T1, T3 so that the reading of the RF VTVM is maximum output. Do not touch T2 (alredy adjusted).
T4	(F) Line Output Maximum Adjustment	CH C (6') Talk	T4	1. Set S9 to ON. 2. Apply a 40dB μVemf output from S.S.G. (modalation frequency 1kHz. dev. 3kHz), and adjust T4 so that reading of the AF VTVM is maxmum output. Maximum setting then 0.5dB down from its peak (clockwise).
VR2	(G) Line Output Level Adjustment	CH C (6') Talk	VR2	1. Set S9 to ON. 2. Apply a 40dB μVemf output from S.S.G (modalation frequency 1kHz. dev. 3kHz). 3. Adjust VR2 so that the reading of the AF VTVM is -1dBm ± 0.5dBm.
VR1	(H) Line Input Modulation Adjustment	CH A (5') Talk	VR1	1. Set S8 to ON. (S6, S7: OFF) 2. Input via loop simulator 1.0kHz, -20.0dBm (measured at T-R) signal. 3. Apply a 40 dB μVemf output from S.S.G. (modulation frequency 1kHz, dev. 0kHz). 4. Adjust VR1 so that the reading of the FM Deviation Meter is 2.8kHz ± 0.1kHz.
VR4, IC1	(I) Carrier Sensitivity Adjustment	CH B (4') Talk	VR4	1. Set S9, S18 to ON. 2. Apply a 0dB μVemf output from S.S.G. (modulation frequency 1kHz, dev. 0kHz). 3. Adjust VR4 so that the oscilloscope becomes Low → High.

The connection of adjustment equipments are as shown in pages 17 and 18.

■ FOR SCHEMATIC DIAGRAM [KX-T4026SAH (pages 15 and 16)]

1. DC voltage measurements are taken with electronic voltmeter from negative voltage line.

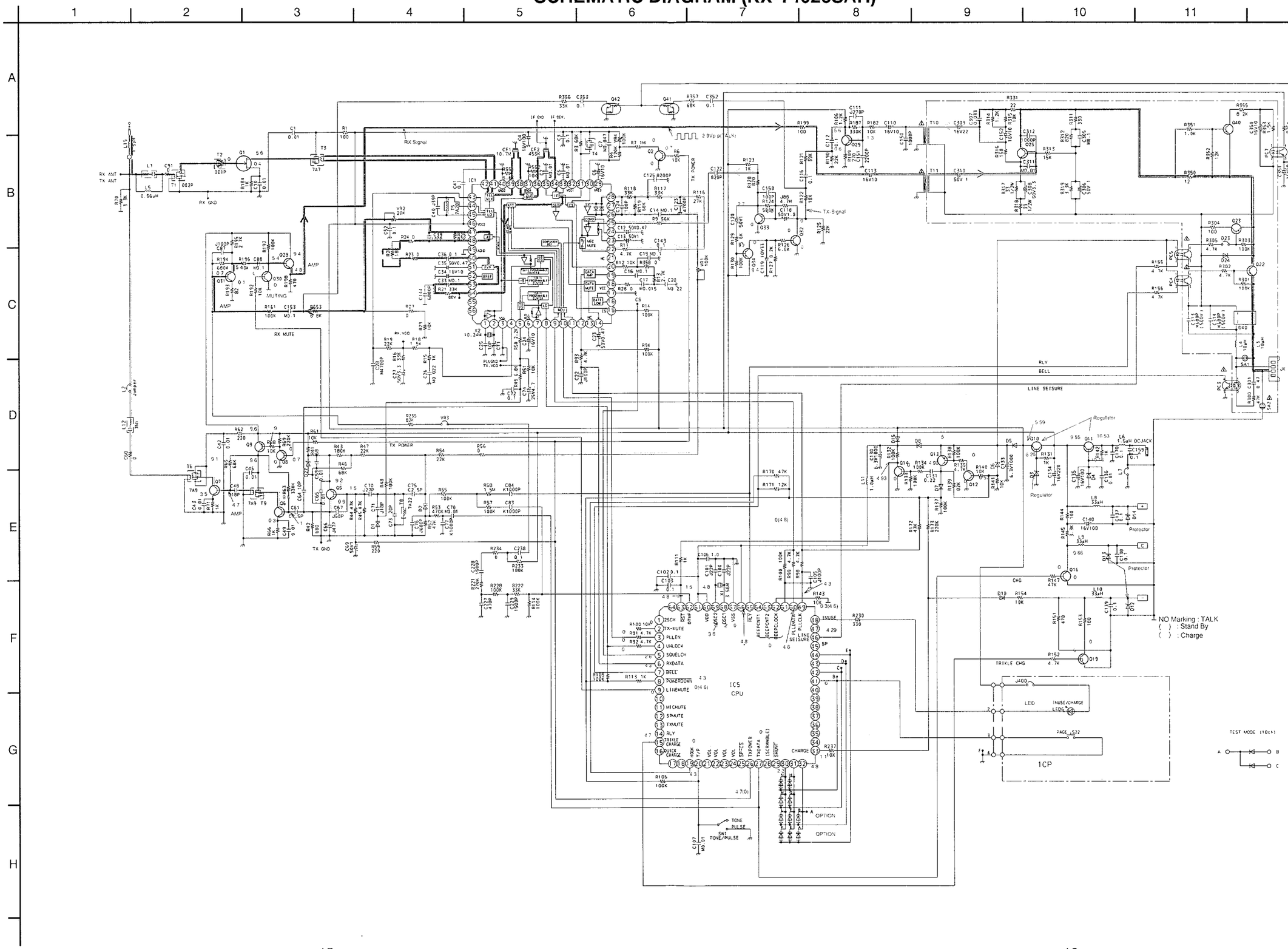
   This schematic diagram may be modified at any time with development of new technology.

Important safety notice
Components identified by ⚠ mark have special characteristics important for safety. When replacing any of these components, use only manufacturer's specified parts.

FLASH TIME

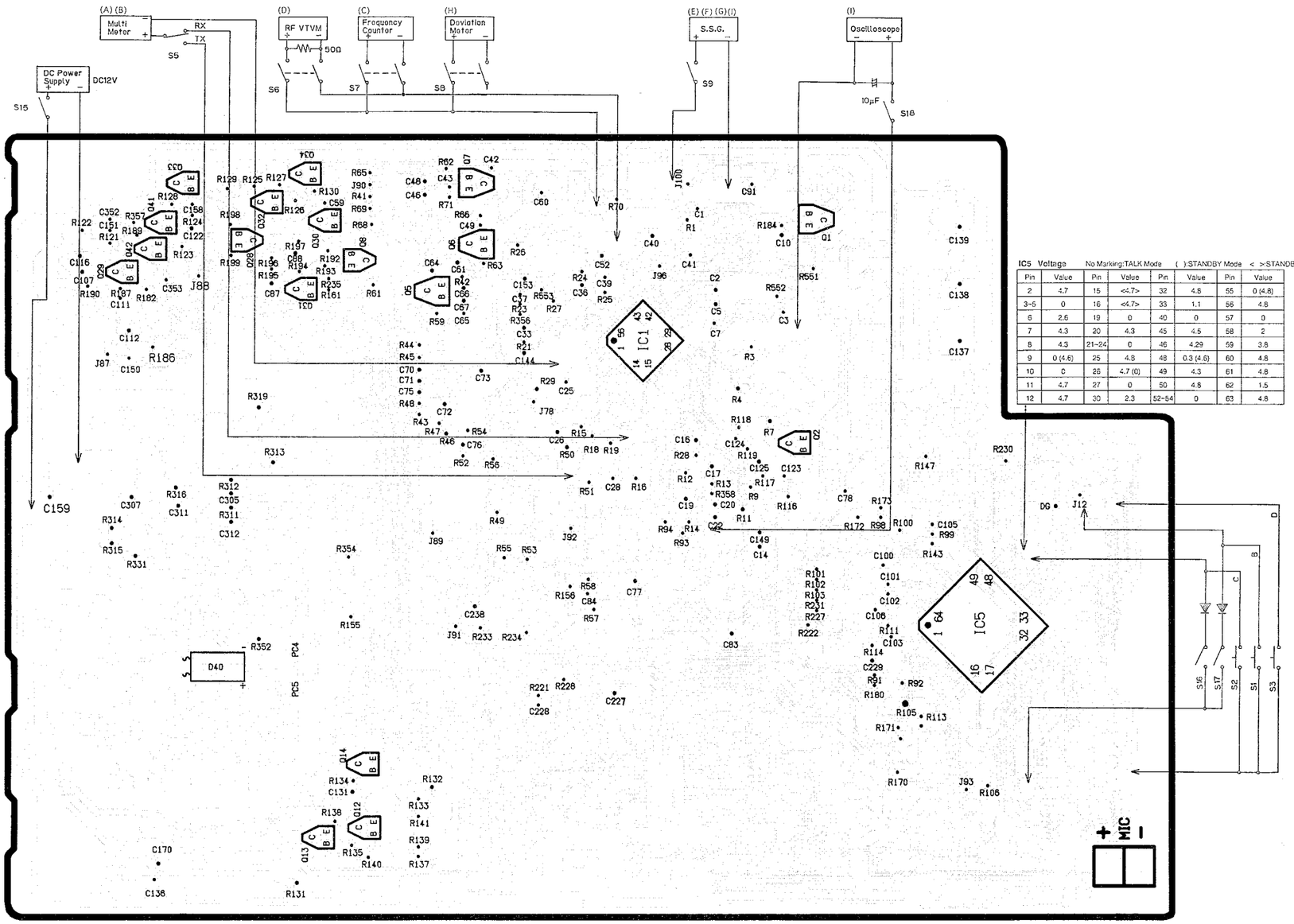
	M	N
600 msec		
400 msec		○
250 msec	○	
80 msec	○	○

SCHEMATIC DIAGRAM (KX-T4026SAH)



CIRCUIT BOARD AND WIRING CONNECTION DIAGRAM (KX-T4026SAH)

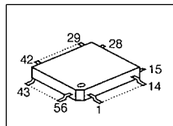
(Flow Solder Side View)



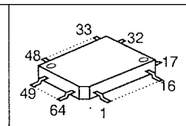
IC5 Voltage

No Marking:TALK Mode ( ):STANDBY Mode < >:STANDBY Mode

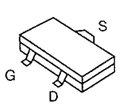
Pin	Value	Pin	Value	Pin	Value	Pin	Value
2	4.7	15	<4.7>	32	4.8	55	0 (4.8)
3-5	0	16	<4.7>	33	1.1	56	4.8
6	2.6	19	0	40	0	57	0
7	4.3	20	4.3	45	4.5	58	2
8	4.3	21-24	0	46	4.29	59	3.8
9	0 (4.6)	25	4.8	48	0.3 (4.6)	60	4.8
10	0	26	4.7 (0)	49	4.3	61	4.8
11	4.7	27	0	50	4.8	62	1.5
12	4.7	30	2.3	52-54	0	63	4.8



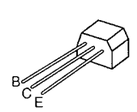
AN6185NFA



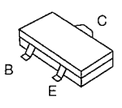
MN150832KKAA



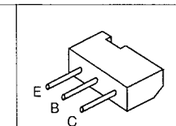
2SK543



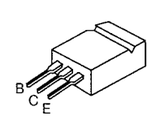
2SC1740S



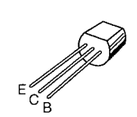
2SD1819A, 2SC2295, PQVTMSC2295C, 2SB1218A



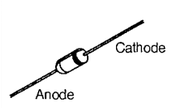
2SA1776P, 2SD1991A, 2SB1322



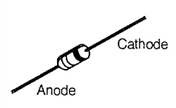
2SD2136



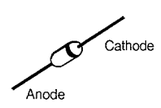
PQVTKSD261CY



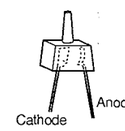
MA840ATAKU, MA840BTAKU, MA4100, MA4300



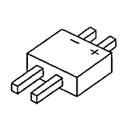
MA4062, MA4047, MA4091



1SS120, MA153



LN322GKGAH



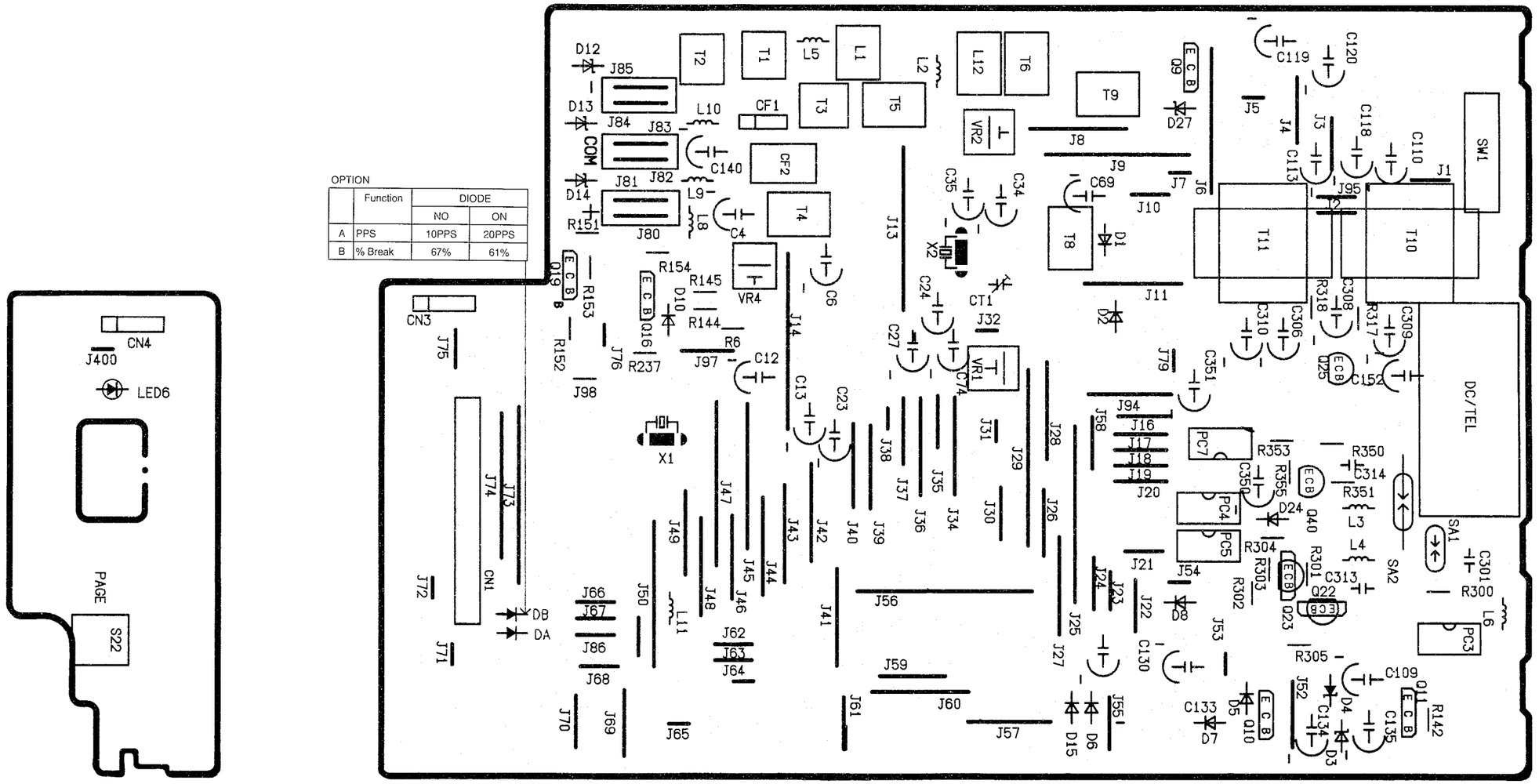
PQVDS1ZB40F1

CIRCUIT BOARD AND WIRING CONNECTION DIAGRAM (KX-T4026SAH)

(Component View)

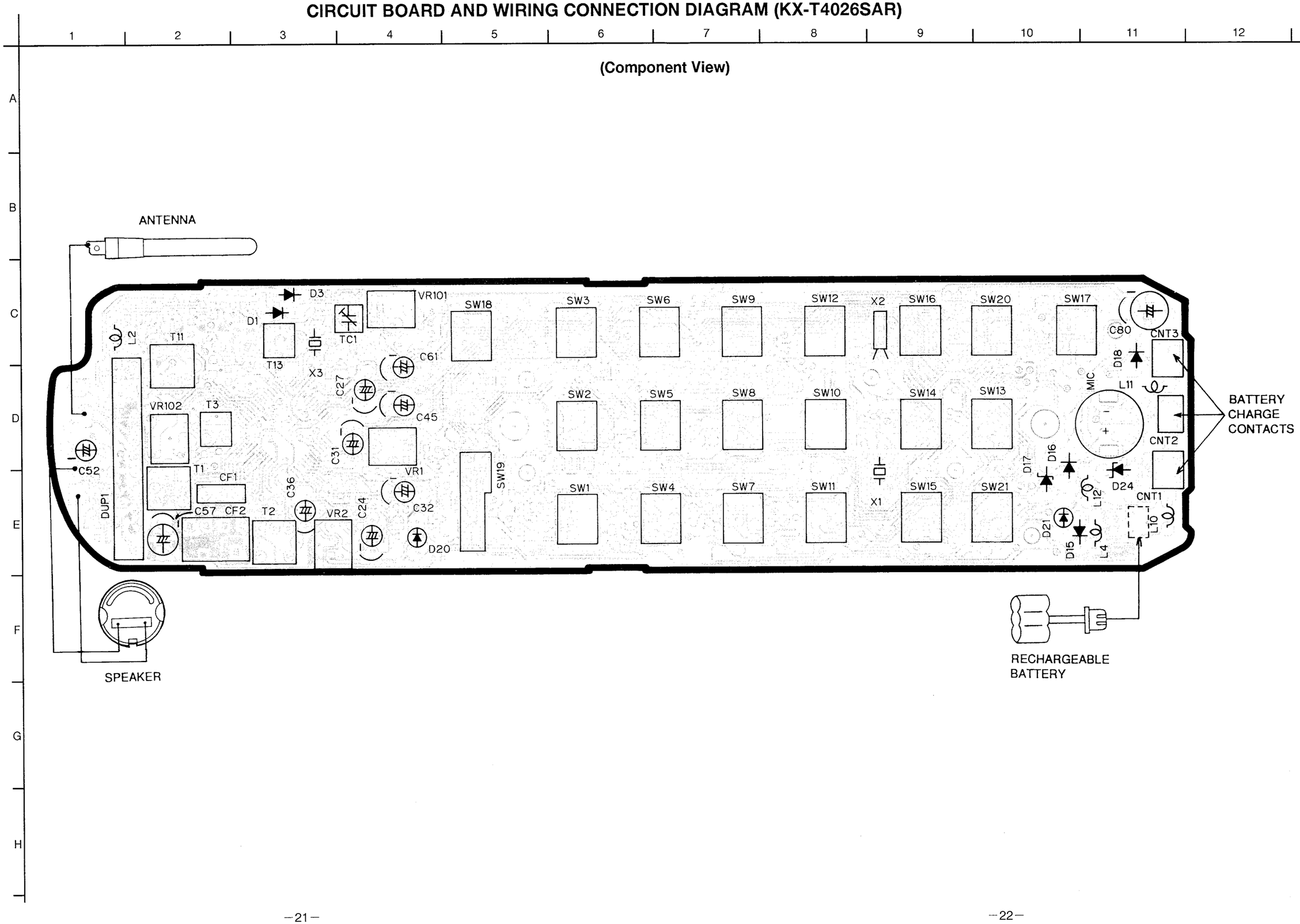
OPTION

	Function	DIODE	
		NO	ON
A	PPS	10PPS	20PPS
B	% Break	67%	61%



CIRCUIT BOARD AND WIRING CONNECTION DIAGRAM (KX-T4026SAR)

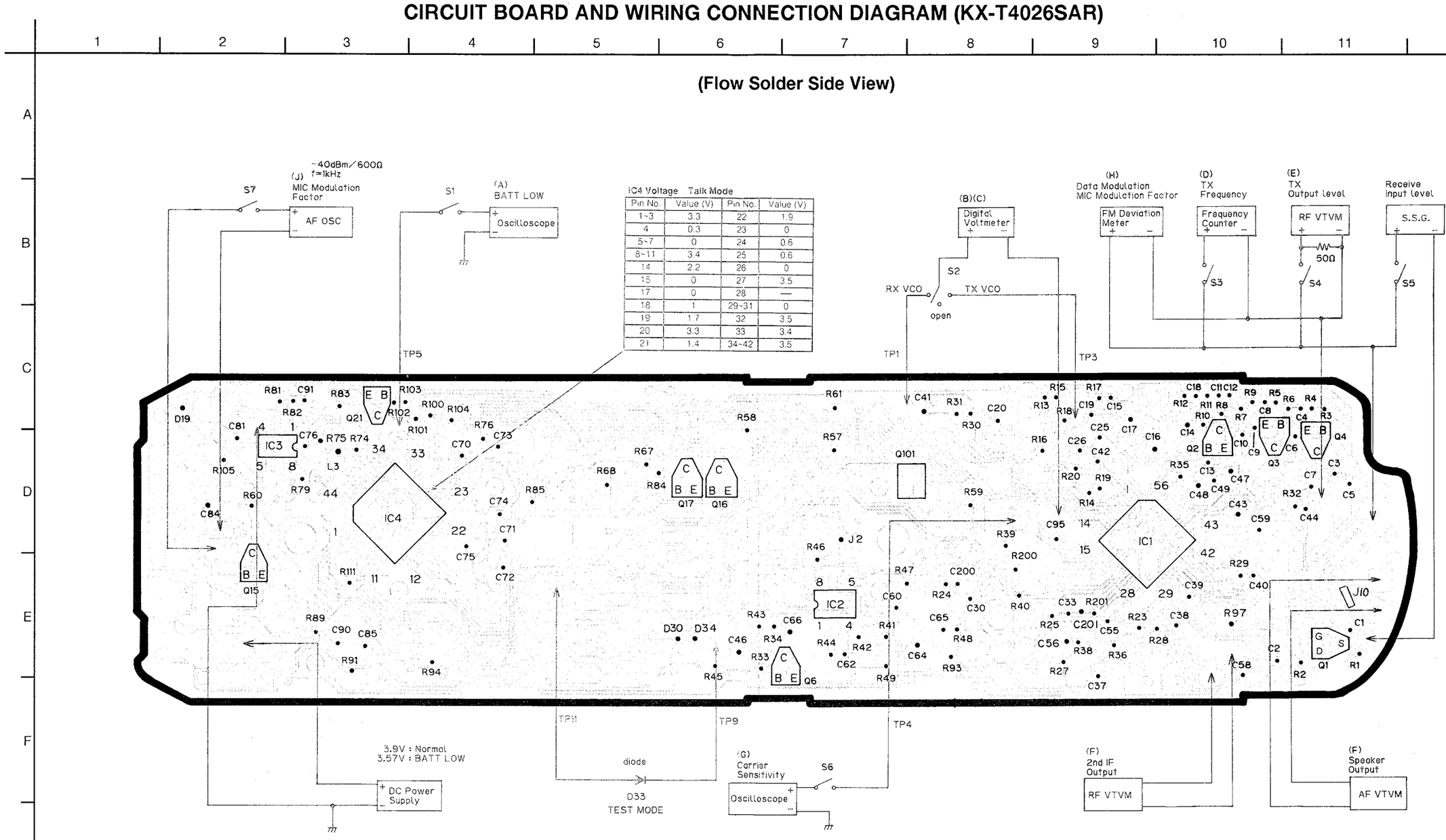
(Component View)

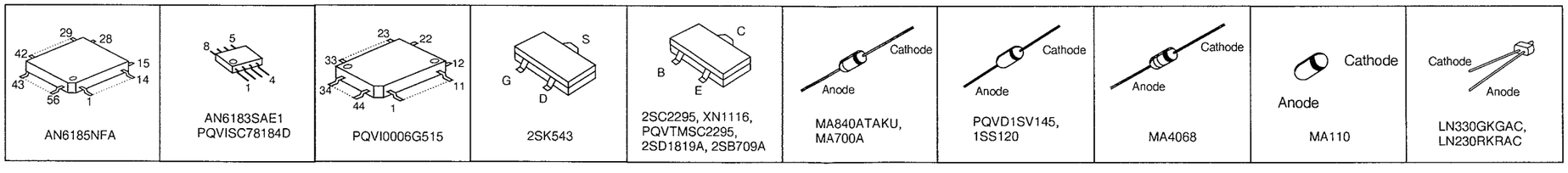


CIRCUIT BOARD AND WIRING CONNECTION DIAGRAM (KX-T4026SAR)

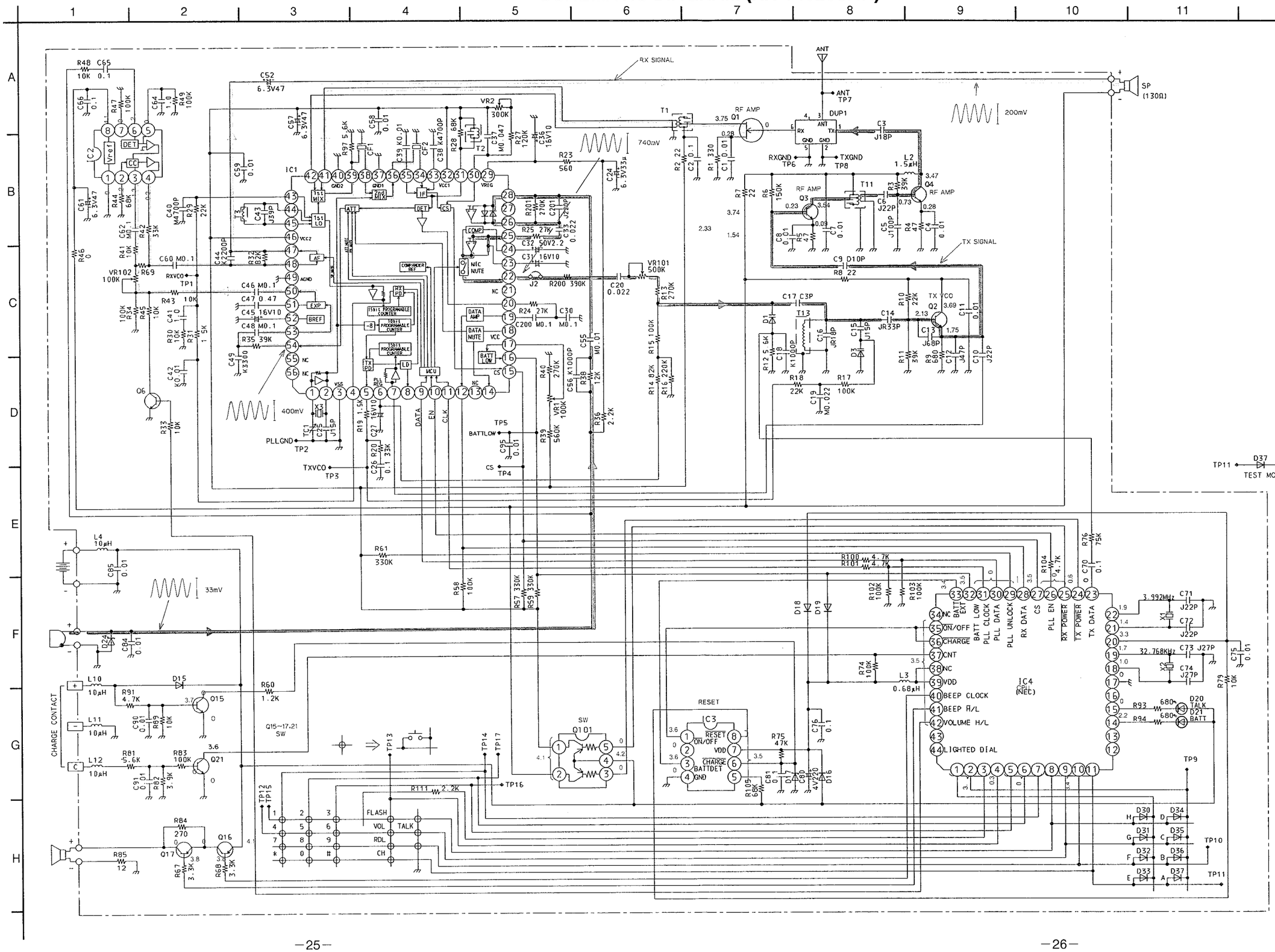
(Flow Solder Side View)

IC4 Voltage Talk Mode			
Pin No.	Value (V)	Pin No.	Value (V)
1~3	3.3	22	1.9
4	0.3	23	0
5~7	0	24	0.6
8~11	3.4	25	0.6
14	2.2	26	0
15	0	27	3.5
17	0	28	—
18	1	29~31	0
19	1.7	32	3.5
20	3.3	33	3.4
21	1.4	34~42	3.5





SCHEMATIC DIAGRAM (KX-T4026SAR)



ADJUSTMENTS (KX-T4026SAR)

If your unit have below symptoms, adjust each item using remedy column from the table.

Symptom	Remedy
The setting of Battery Low Indicator is wrong.	Make adjustments in item(A)
The base unit does not respond to a call from portable handset.	Make adjustments in item(B)
The base unit does not transmit or the transmit frequency is off.	Make adjustments in item(C)
The transmit frequency is off.	Make adjustments in item(D)
The transmit power output is low, and the operating distance between base unit and portable handset is less than normal.	Make adjustments in item(E)
The reception sensitivity of base unit is low with noise.	Make adjustments in item(F)
Does not link between base unit and portable handset.	Make adjustments in item(G), (H)
The reception level is high or low.	Make adjustments in item(I)
The transmit level is high or low.	Make adjustments in item(J)

Unit condltion:
1. Remove the antenna lead wire from P.C Board of portable handset.
2. Power Supply: DC 3.9V
3. Volume switch: NORMAL
4. Speaker Load: 130Ω

How to set the test mode.
CH10 Test Mode

1. After connecting the diode D33, and apply a power supply DC 3.9 V. (The unit becomes CH10 Talk)
2. Press the talk switch. (The unit becomes CH10 standly)
3. Press the Talk Switch.
4. Press the cannel switch,

CH10 → CH1 → CH2·····CH9

When replacing these parts, adjust as shown in table below.

Replace Parts	Adjustment items	Test Mode	Adjustment Point	Procedure
VR1	(A) Battery Low Adjustment	CH10 Talk	VR1	1. Set S1 to ON. 2. Set the power supply voltage to DC 3.57V, and adjust VR1 so that the reading of oscilloscope is High → Low.
IC1, TC1, X3, T13	(B) TX VCO Voltage Adjustment	CH10 Talk	T13	1. Set S2 to ON. 2. Adjust T13 so that the reading of digital voltmeter is 2.0 V ±0.1 V.
IC1, TC1, X3, T3	(C) RX VCO Voltage Adjustment	CH10 Talk	T3	1. Set S3 to ON. 2. Adjust T3 so that the reading of digital voltmeter is 1.8 V±0.1 V.
TC1, X3, IC1	(D) TX frequency Adjustment	CH10 Talk	TC1	1. Set S4 to ON. 2. Adjust TC1 so that the reading of frequency counter is 49.97 MHz±200 Hz.

KX-T4026SA

When replacing these parts, adjust as shown in table below.

Replace Parts	Adjustment items	Test Mode	Adjustment Point	Procedure
T11	(E) TX Output Adjustment	CH10 Talk	T11	1. Set S5 to ON. 2. Adjust T11 for 280mV～430mV output on RF VTVM.
T1, T3	(F) RX Adjustment (Speaker Output) (2nd IF Output)	CH1 Talk	T2 T1	1. Set S6, S7, S8, to ON. 2. Apply a 45 dB μVemf output from S.S.G. (modulation frequency 1 kHz, dev. 3kHz) 3. Adjust T2 so that the reading of AF VTVM is maximum output. 4. Apply a 45 dB μVemf output from S.S.G. (modulation frequency 1kHz, dev. 3kHz) 5. Adjust T1 so that the reading of RF VTVM is maximum output.
VR2	(G) Carrier Sensitivity Adjustment	CH B (5') Talk	VR2	1. Set S6, S9 to ON. 2. Set to the CH B, adjust so that carrier sense is at the "Low " level when S.S.G. output is 7dBμV (confirm using an oscilloscope). Verify speaker output is, when adjust carrier sense (S.S.G. 7dBμV, f=400 kHz, dev.=3 kHz).
	(H) Confirmation of Data Moudulation	CH10 Talk	—	1. Set S4 to ON. 2. Keep pressing the Recall button. 3. Confirm for a 6~8.5 kHz FM Deviation Meter reading.
VR102	(I) Speaker Output Level Adjustment	CH10 Talk	VR102	1. Set S6, S8 to ON. 2. Apply a 45 dB μVemf output from S.S.G.(modulation frequency 1kHz, dev. 3kHz). 3. Adjust VR102 so that the reading of AF VTVM is -29dBm.
VR101	(J) MIC Modulation Factor Adjustment	CH10 Talk	VR101	1. Set S4, S10 to ON. 2. Apply a MIC signal (1kHz, -40 dBm at 600 Ω load). 3. Adjust VR 101 so that the reading of FM Deviation Meter is 2.8kHz±0.1kHz.

The connections of adjustment equipments are as shown in pages 23 and 24.

■ For SCHEMATIC DIAGRAM [KX-T4026SAR (pages 25 and 26)]

1. SW1～12: Dialing Switch
2. SW13: Program Switch
3. SW14: Recall Switch
4. SW15: Auto Switch
5. SW16: Redial Switch
6. SW17: Channel Switch
7. SW19: Talk Switch
8. SW20: Volume/Ringer Switch
9. SW21: Pause Switch
10. DC voltage measurements are taken with electronic voltmeter from negative voltage line. (Talk Posittion)

This schematic diagram may be modified at any time with the development of new technology.

FREQUENCY TABLE (MHz)

■ PLL MODE

	KX-T4026SAH		KX-T4026SAR	
	Transmit Frequency	Receive Frequency	Transmit Frequency	Receive Frequency
CH1	46.610	49.670	49.670	46.610
CH2	46.630	49.845	49.845	46.630
CH3	46.670	49.860	49.860	46.670
CH4	46.770	49.830	49.830	46.770
CH5	46.830	49.890	49.890	46.830
CH6	46.870	49.930	49.930	46.870
CH7	46.970	49.970	49.970	46.970

■ TEST MODE

	KX-T4026SAH			KX-T4026SAR	
	Transmit Frequency	Receive Frequency		Transmit Frequency	Receive Frequency
CH1	46.610	49.670	CH1	49.670	46.610
CH2	46.630	49.845	CH2	49.845	46.630
CH3	46.670	49.860	CH3	49.860	46.670
B(4'CH)	46.710	49.910	CH4	49.770	46.710
A(5'CH)	46.730	49.950	B(5'CH)	49.875	46.690
C(6'CH)	46.770	49.810	CH6	49.830	46.770
D(7'CH)	46.830	49.700	CH7	49.890	46.830
E(8'CH)	46.870	49.740	CH8	49.930	46.870
CH9	46.930	49.990	CH9	49.990	46.930
CH10	46.970	49.970	CH10	49.970	46.970

RF SPECIFICATION

BASE UNIT (KX-T4026SAH)

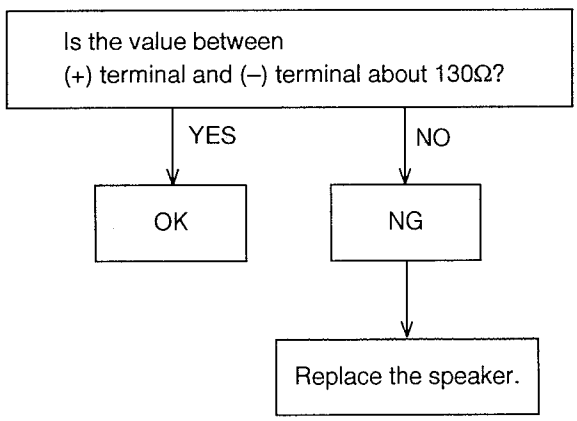
Item	Value	Refer to —.	Remarks (Test mode CH)
TX Frequency	46.97 MHz±200Hz	Page 12 (C)	at CH10
TX Power	200 mV±10 mV	Page 13 (D)	at CH A (5')
TX Modulation factor	2.8±0.2 mV	———	at CH A (5'), TALK mode
TX Modulation Distortion	Less than 7%	———	at CH A (5'), TALK mode
TX Max. Modulation factor	3 kHz~5 kHz	———	at CH A (5'), TALK mode
Data Modulation factor	5 kHz±1kHz	———	at CH A (5'), Stand-By mode

PORTABLE HANDSET (KX-T4026SAR)

Item	Value	Refer to —.	Remarks (Test mode CH)
Practical Sensitivity	Less than 9 dBμV	———	at CH1, TALK mode
Carrier Sensitivity	Less than 7 dBμV	———	at CH B (5'), Stand-By mode
TX Frequency	49.97 MHz±200Hz	Page 27 (D)	at CH10
TX Output	280 mV~480mV	Page 28 (E)	at CH10
Data Modulation factor	6 kHz~8.5 kHz	Page 28 (H)	at CH10, TALK mode
MIC Modulation factor	2.8 kHz±0.2 kHz	———	at CH10 (MIC terminal -40dBm Input), TALK mode

HOW TO CHECK THE PORTABLE HANDSET SPEAKER

1. Prepare the digitial voltmeter, and set the selector knob to ohm meter.
2. Put the probes at the speaker terminals as shown in Fig.7.
3.



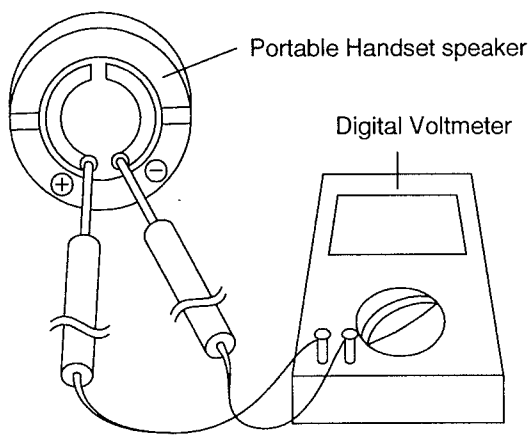
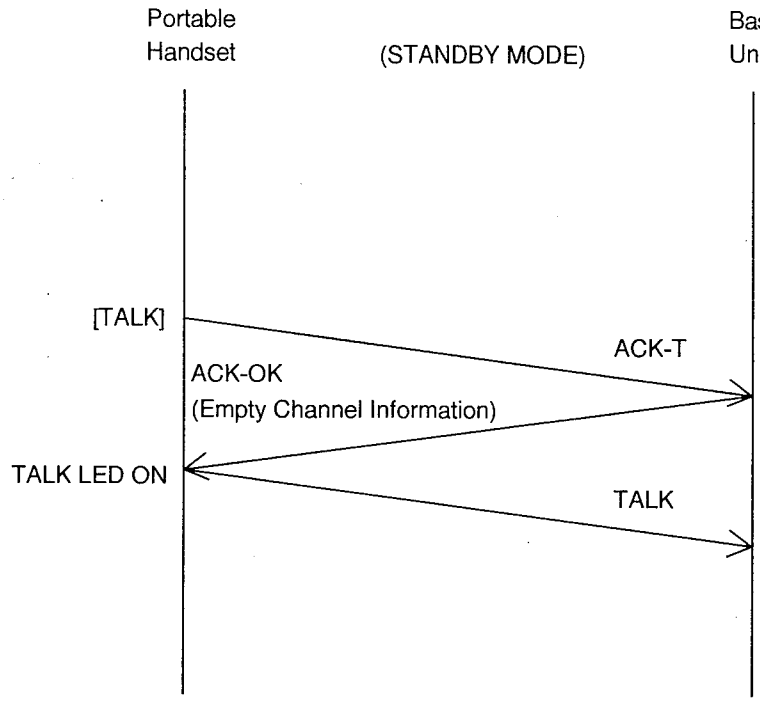


Fig. 7

EXPLANATION OF CPU DATA COMMUNICATION

1. Calling

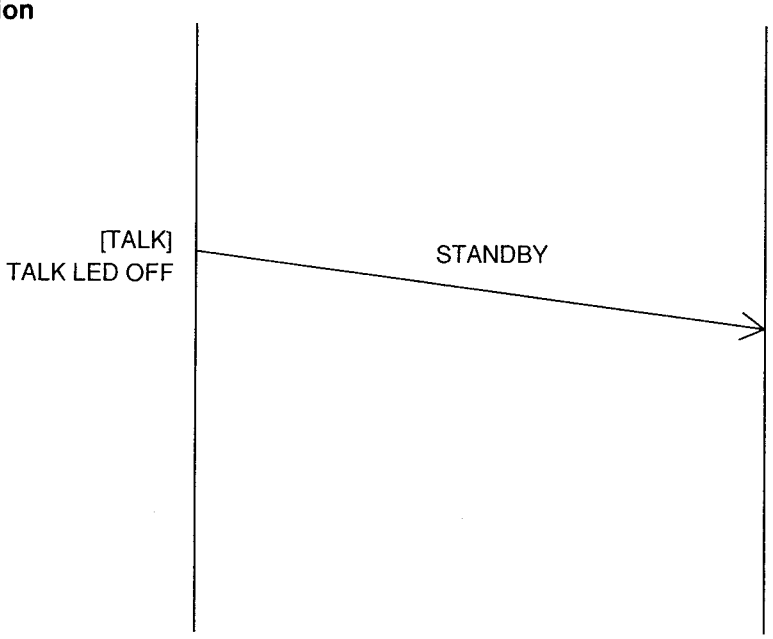


When calling, a communication request DATA (ACK-T) is transmitted from the Portable Handset first, and a permitting data (ACK-OK) is returned from the Base Unit to it, then a communication data (TALK) is transmitted from the Portable Handset.

OFF HOOK
IN USE LED ON

The permitting DATA (ACK-OK) from Base Unit to Portable Handset includes the empty channel information stored in Base Unit. After transmitting the communication DATA (TALK) from Portable Handset to Base Unit, the channel is used.

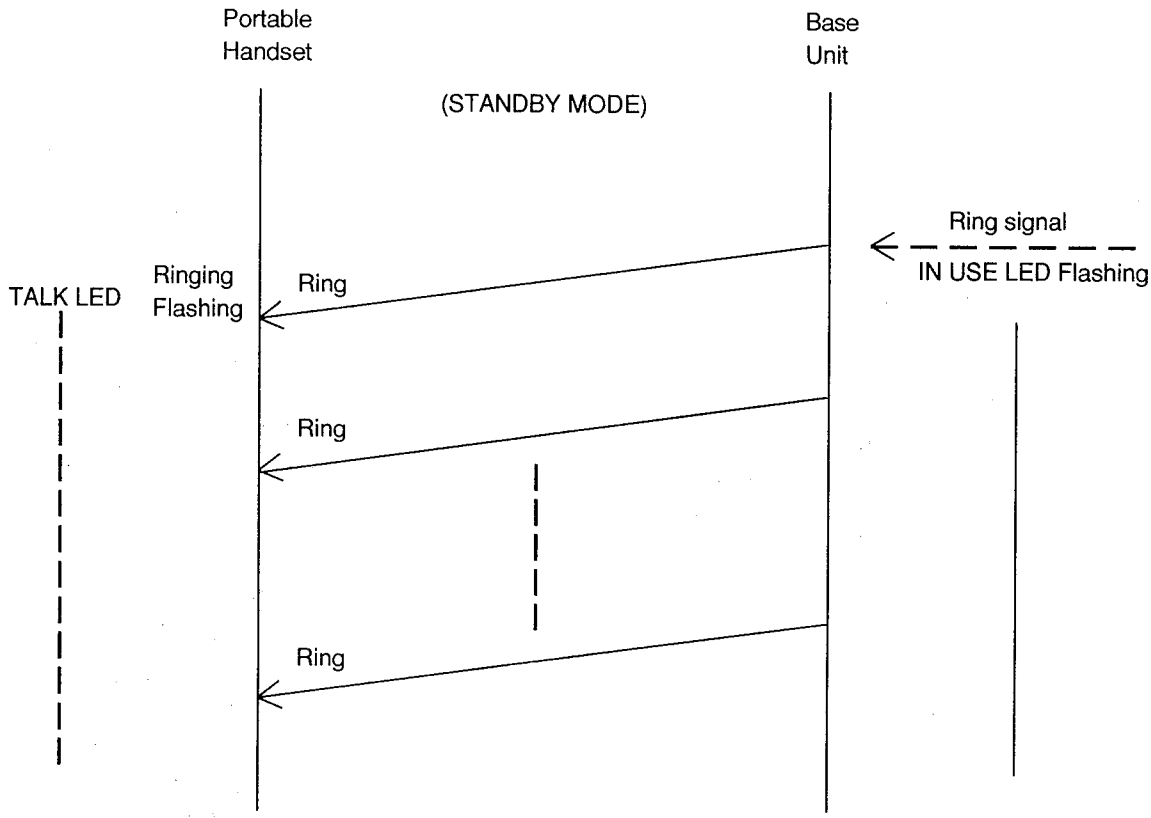
2. To terminate Communication



When the TALK button on Portable Handset is pressed during communication, a LINK terminating DATA (STANDBY) is sent to terminate communication.

OFF HOOK
IN USE LED OFF

3. Ringing



After detecting the Ring signal from circuit, Base Unit sends a ring signal DATA (Ring), then the Portable Handset starts ringing.

4. Ports for transmitting and receiving of data

Portable Handset :	transmitting ... 23 Pin	receiving ... 28 Pin
Base Unit :	transmitting ... 27 Pin	receiving ... 6 Pin

5. Waveform of DATA used for cordless transmission and reception

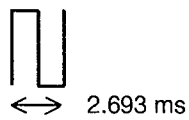
The DATA which is transmitted from the Portable Handset to the Base Unit is combination of DATA 0, DATA 1, DATA Delimt, Pre data and End data of P1.

The DATA which is transmitted from the Base Unit to the Portable Handset is combination of DATA 0, DATA 1, DATA Delimt, Pre data and End data of P2.

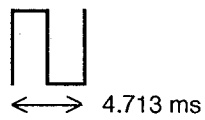
PORTABLE HANDSET

Transmitting DATA Format

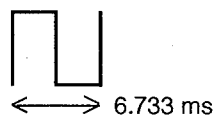
DATA 0



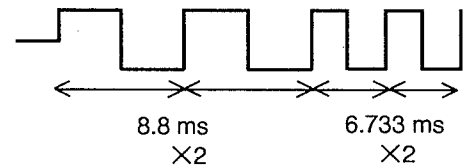
DATA1



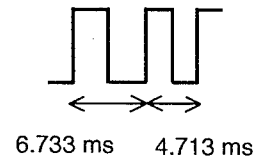
DATA Delimt



Pre data



END data

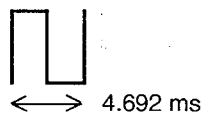


BASE UNIT

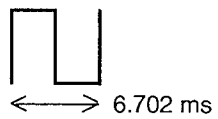
Transmitting DATA Format

DATA 0

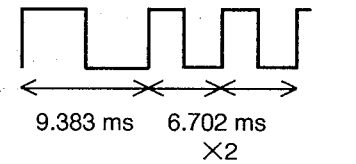
DATA1



DATA Delimt

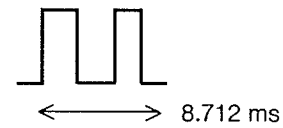


Pre data

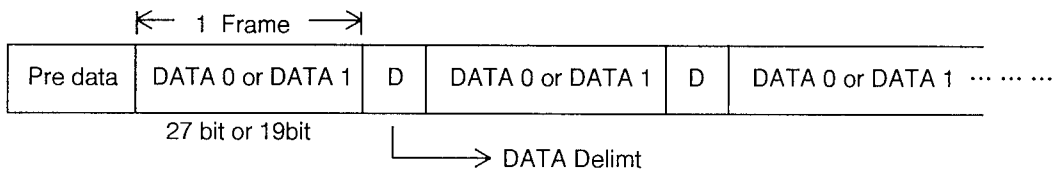


22.787 ms

END data

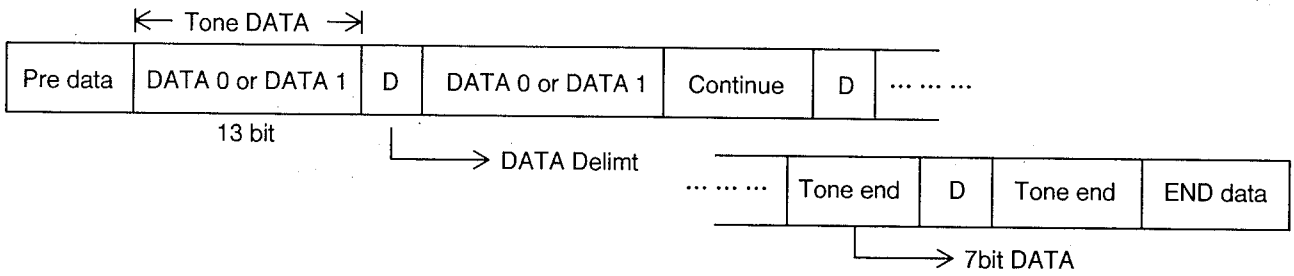


6. When LINKing



When LINKing from the Portable Handset (when becoming STBY to TALK), DATA is transmitted in above format. The combined portion of DATA 0 and DATA 1 is transmitted in LINK requesting DATA(27bit) format first.Then,when LINK OK(ACK-OK) DATA (19bit) is returned from the Base Unit, it is sent as LINK from DATA after changing the combination of DATA 0 and DATA 1. And the DATA Delimt is between each Frame as a stop.
The contents of LINK requesting DATA and LINK from DATA are different depending on each operation.

7. Tone Dial

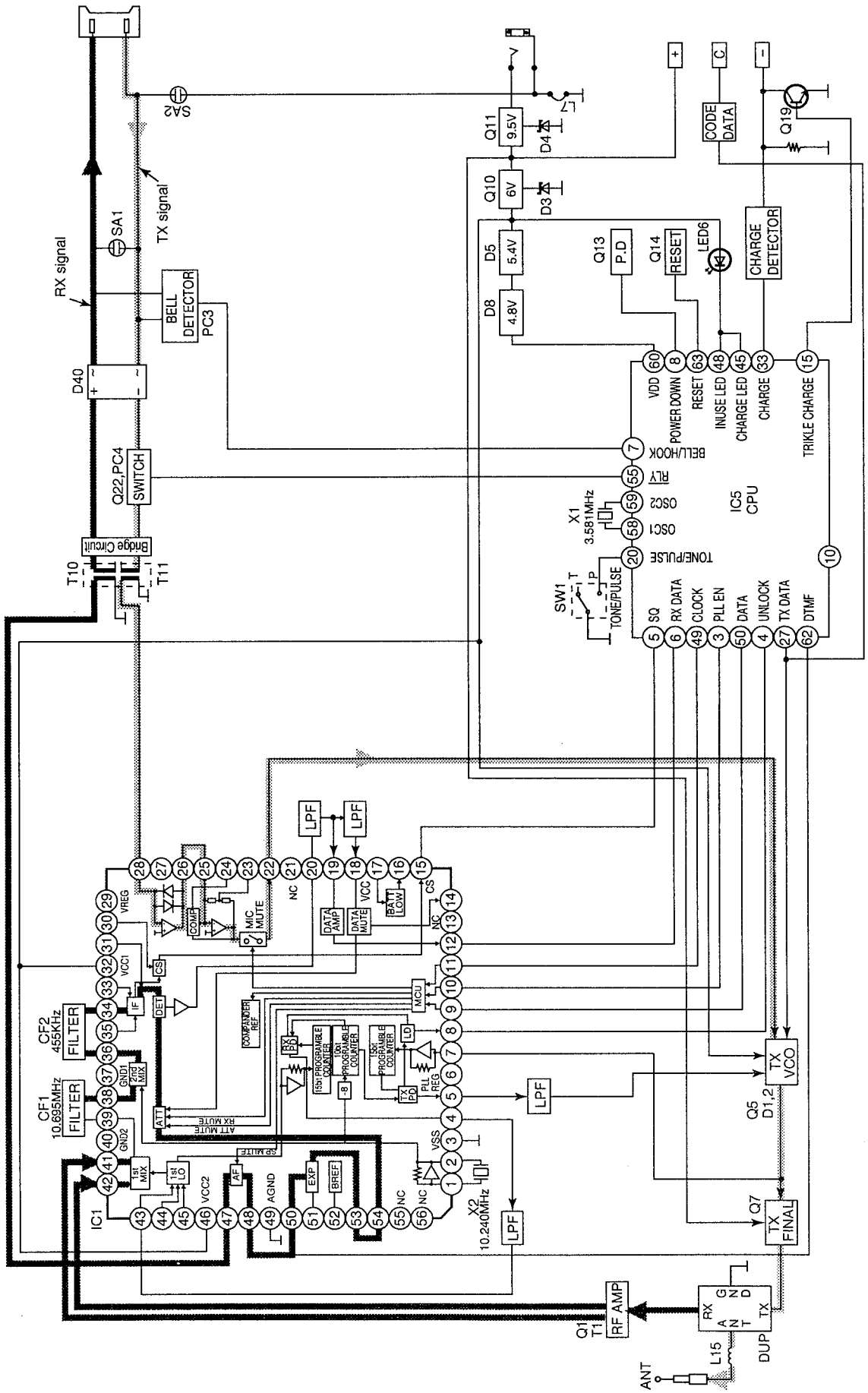


When executing Tone Dial, Tone Dial DATA is transmitted from the Portable Handset to the Base Unit in above format. When Tone Dialing, DATA (Continue DATA) that the key is pressed continuously is sent to the Base Unit during the key is pressed. When depressing the key, the TONE Dial exterminating DATA (Tone end DATA) is send, and the END data is sent finally.

NOTE

65,000 kinds of the security code are available for the model KX-T4026SA. Each time the portable unit is set on the cradle of the base unit (for charging), the CPU automatically change the security code.

BLOCK DIAGRAM (KX-T4026SAH)



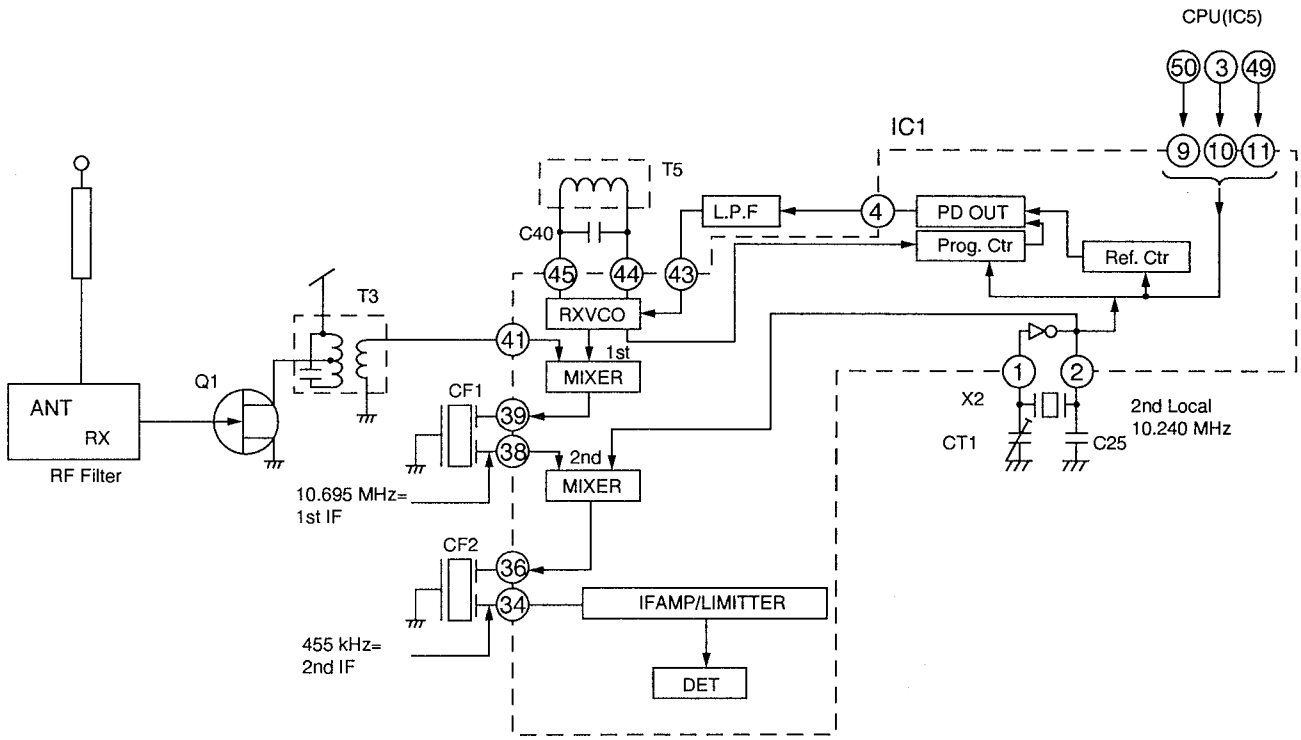
NEW CIRCUIT OPERATION (KX-T4026SAH)

■ RECEIVER RF IF CIRCUIT

Circuit Operation:

The signal of 49 MHz band (49.67~49.97MHz) which is input from ANT is filtered at RF Filter, passes through the filter AMP of 49 MHz band at T3 and Q1, and is input to Pin 41 of IC1.
RX VCO which oscillates at T5 and Pins 44, 45 of IC1 is input to program control at inside of IC1, 1st local frequency is controlled to assigned channel by serial data which is output, from Pins 3, 49 and 50 of IC5 (CPU), makes loop with Phase Detector Out and RX VCO, and locks 1st local frequency.
The input signal of Pin 41 of IC1 and 1st local frequency output from RX VCO are mixed at inside of IC1, then it passes through CF1, and 1st IF frequency of 10.695 MHz is generated. The 10.240 MHz and 10.695 MHz which are oscillated at X2 and Pins 1, 2 of IC1 are mixed at inside of IC1 and filtered at CF2, and 2nd IF 455 Hz is output.

Circuit Diagram

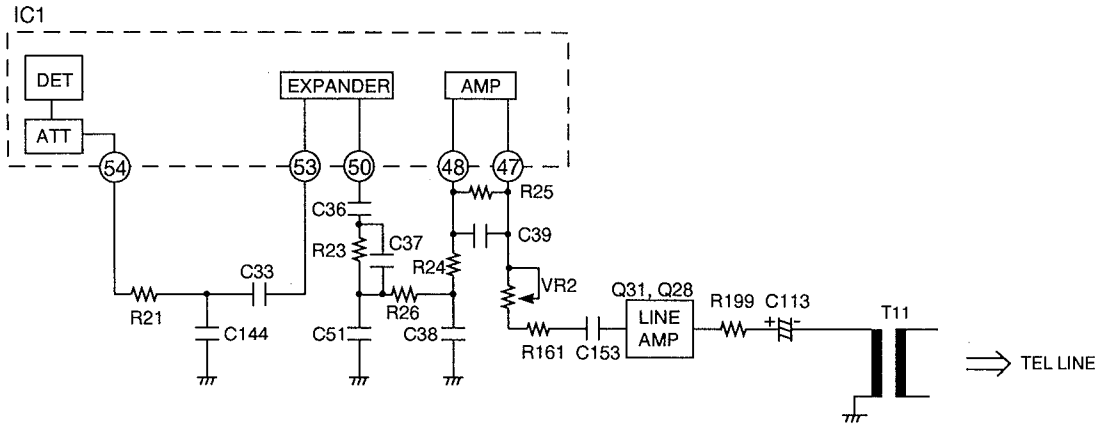


■ RECEIVER SIGNAL CIRCUIT

Circuit Operation:

1. The detected signal passes through R21, C33, is input to Pin 53 of IC1.
2. Then, it goes through L.P.F. which consists of Pin 53 of IC1 and external capacitor and resistor, and internal EXP/AMP of IC1 and is output from Pin 47 of IC1.
3. Then it goes through Buffer Amp which consists of Q28, Q31 and tel line interface trans T11, and is output to TEL LINE.

Circuit Diagram



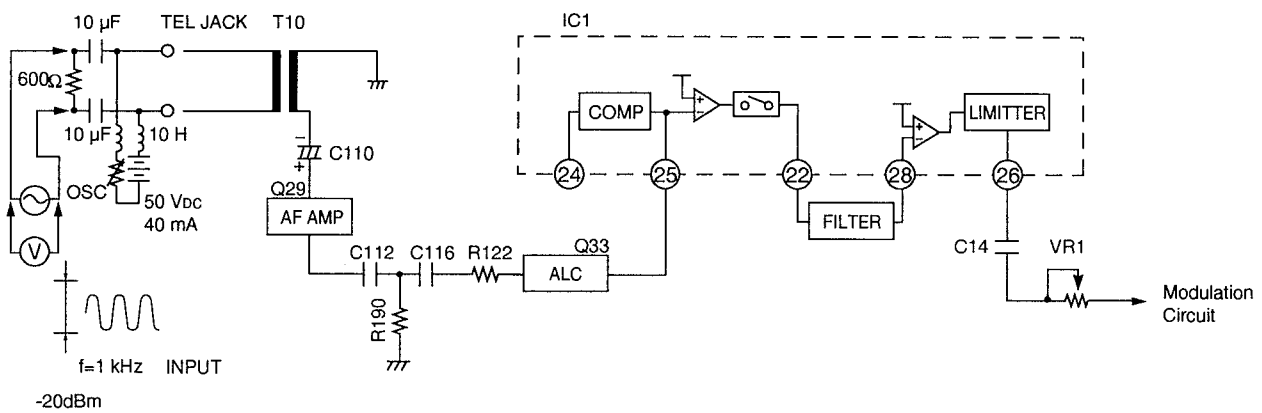
Note: When applying the SSG input level of reception 60 dBμV
(3.0 kHz Deviation, f=1 kHz) from antenna, all waveform are measured.

■ TRANSMITTER SIGNAL CIRCUIT

Circuit Operation:

1. The signal input from TEL LINE goes through tel line interface trans T10 → C110 → Q29 → C112, C116 and R122 → Pin 25 of IC1 Amp → COMPRESSOR, LIMITTER, and is output from Pin 26 of IC1.
2. The signal output from Pin 26 passes through C14 and VR1, and is input to modulator circuit.

Circuit Diagram



NORMAL CIRCUIT OPERATION (KX-T4026SAH)

■ TELEPHONE LINE INTERFACE

Circuit Operation:

•ON HOOK

Q22 is open, Q22 is connected as to cut the DC loop current and to cut the voice signal. The unit is consequently in an on-hook condition.

•SPECIFICATIONS

In the on-hook state (idle), the current flows between the telephone line and the unit is as follows:

T → C301 → R300 → PC3 → R

The DC component is blocked by C301: thereby providing an on-hook condition.

The AC interface impedance is over 22 kΩ; thus, satisfying the telephone company requirements.

■ TELEPHONE MODE OPERATION

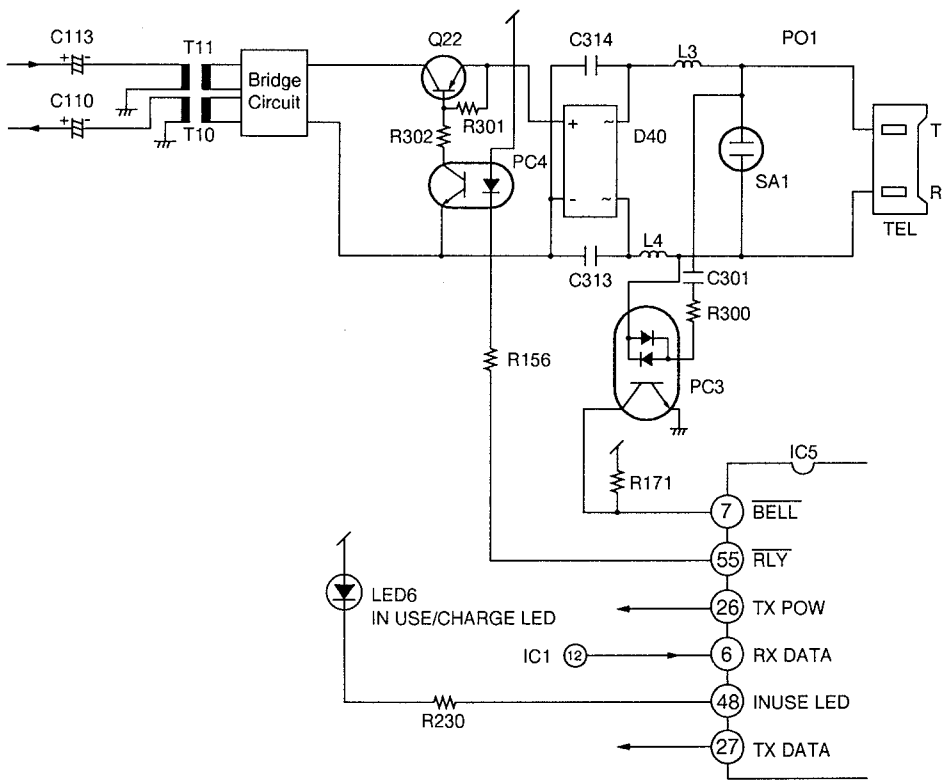
When a ring signal enters from the Line

1) The ring detection circuit, i.e., the photocoupler PC3, begins to operate and its output is input to Pin7 of IC5 (CPU).
2) To show the arrival of the ring signal to the portable handset, Pin 26 of IC5 enters into the transmit mode thus becoming a High and the ring data having the code set by Pin 27 of IC5 is sent to portable handset as a modulated output signal.
3) Upon receiving the ring data, and the portable handset is switched from standby to the talk mode, the base unit receives a carrier modulated by the data indicating a switch from standby to talk.This data is then demodulated at the base unit and passes through a data signal amplifier of IC1, This signal is then inputted to Pin 6 of IC5, via Pin 55 of IC5 which causes Q22 and PC4 to release the muting, and enable talk.

Circuit-making from the portable handset

1) When the operator of the portable handset presses the talk button, data is transmitted the base unit , this data is then demodulated by the base unit and passed through data signal amplifier of IC1 and enters Pin 6 of IC5.
2) When the codes coincide, Pin 55 of IC5 becomes a "Low". At this time the transmit condition is enabled and the photocoupler PC4 is turned on.
3) Further, an IN USE signal is sent out from Pin 48 of IC5, thus dimly lighting the IN USE/CHARGE LED (LED6).

Circuit Diagram



■ INITIALIZATION CIRCUIT

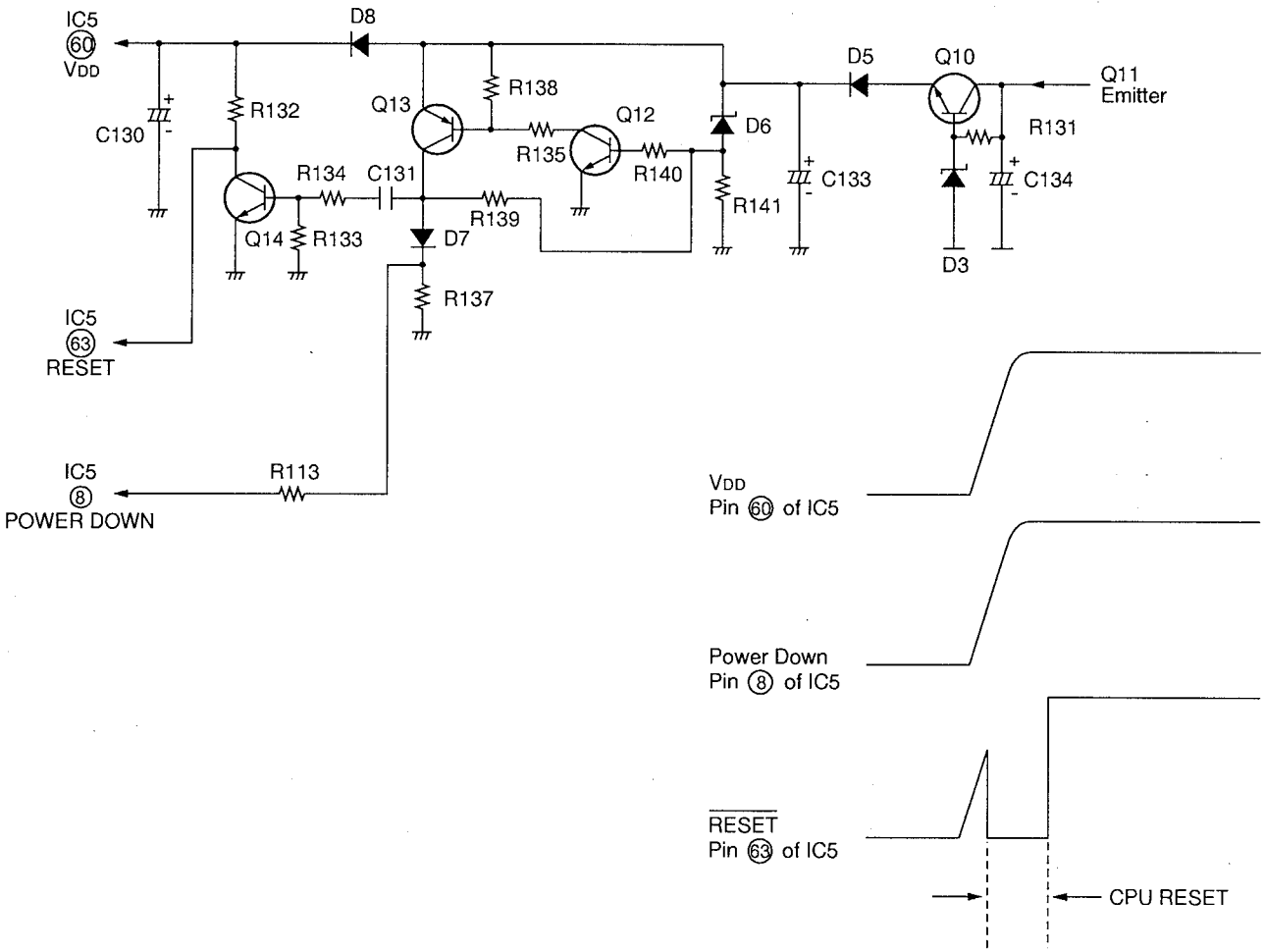
Function:

This circuit is used for initializing the CPU when the AC adaptor is connected.

Circuit Operation:

When the unit is switched ON, then the voltage is shifted by D5, D8 and power is supplied to the CPU.

Circuit Diagram



■ CHARGE DETECT CIRCUIT

Circuit Operation:

•CHARGE MODE

When charging the portable handset on the base unit, CH ID CODES are sent from the CONT terminal to the portable handset, and charging current is supplied to the portable handset from the battery charge contacts via R153 on base unit:

When ⊖ contact on base unit is input to Pin 33 of IC5 (CPU) through D10 and LED6 (CHARGE LED) light is on. When the Ⓐ point on the portable handset is High level, Q15 on portable handset goes on and Pin 6 of IC3 becomes Low, and the pin 1 of IC3 will become low, so pin 36 of IC4 (CPU) becomes low. In this way the CPU on portable handset detects the fact that the battery is charged.

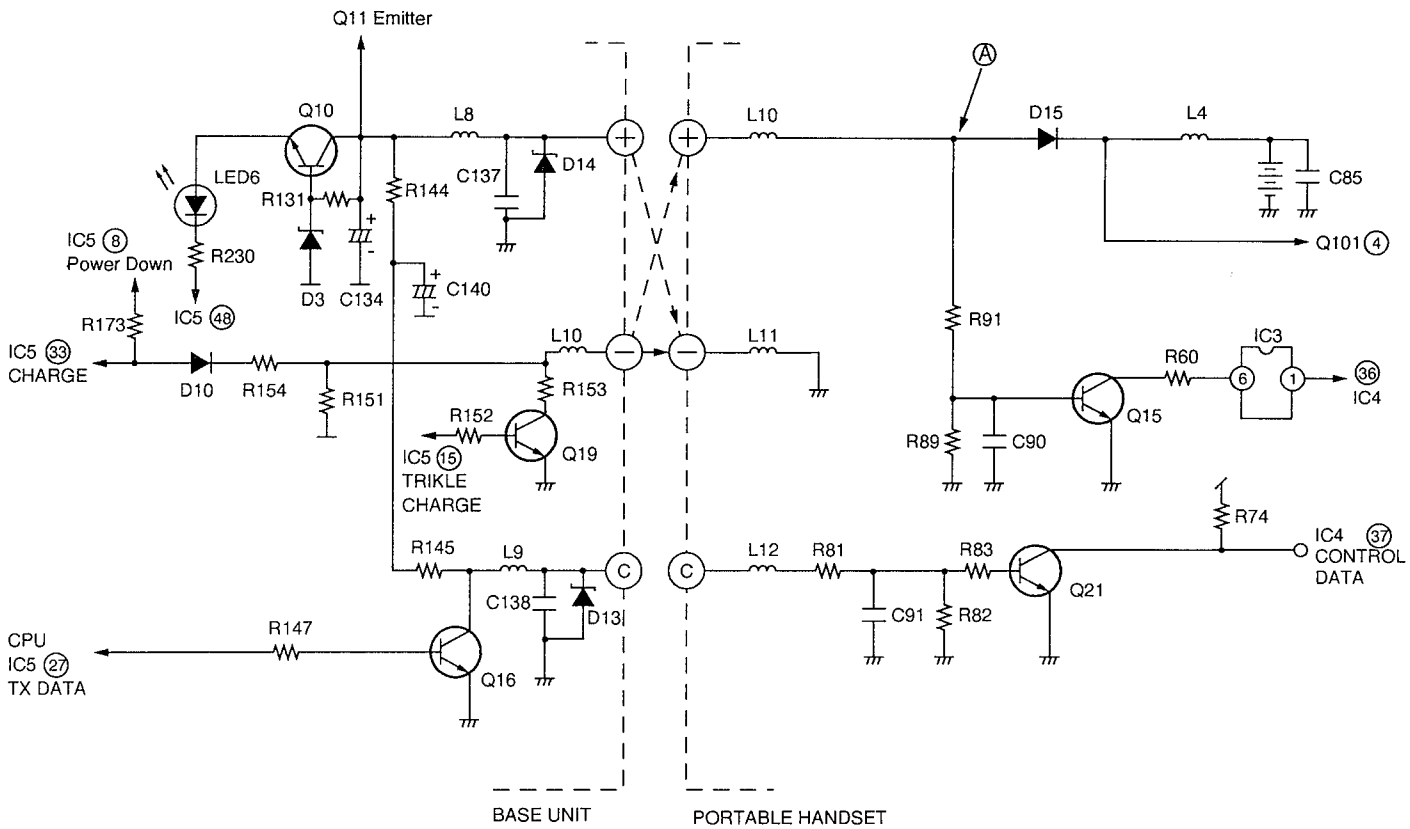
•Set up of the portable handset

When charging the portable handset on the base unit, the data signal is sent from CONT terminal to portable handset.

The Q16 switching is affected by Pin 27 of IC5 on base unit, the sending data are CH data, ID code, tone data etc.

The data signal is sent to Pin 37 of IC4 (CPU) via Q21 on portable handset.

Circuit Diagram

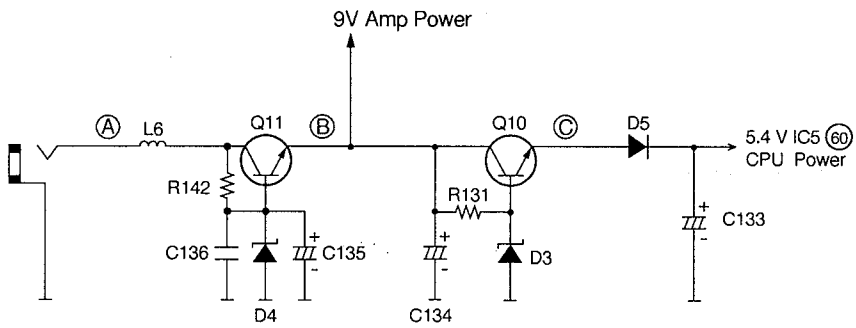


■ POWER SUPPLY CIRCUIT

Function:
Power from the AC adaptor passes through a 2-stage regulating block consisting of Q11 and Q10 and provides system voltages of 5.4 and 9 V.

Circuit Operation:
Power from the AC adaptor is supplied directly to the plunger. Q11 is a regulated power supply. The voltage at point Ⓑ is regulated to 9 V by the zener voltage of D4→Amp power. Q10 is a regulated power supply. The voltage at point Ⓒ is regulated to 6 V by the zener voltage of D3. The 6 V voltage is dropped by D5 to 5.4 V.

Circuit Diagram

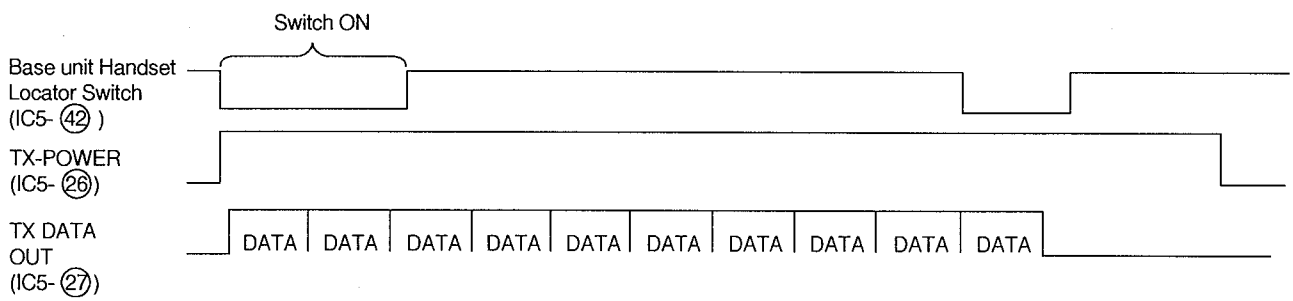


■ CPU OPERATION

1. TEL MODE

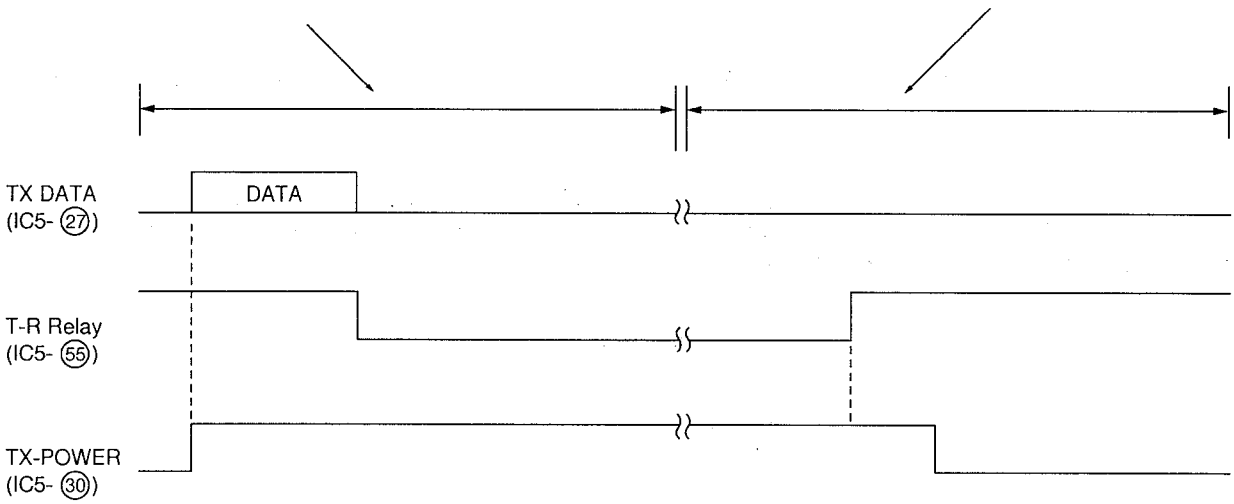
CPU Terminals / Operation Mode	26 TX POW	27 TX DATA	55 TR-RLY
STANDBY	L	L	H
TALK	H	L	L
4026SAH→4026SAR Ring	H	DATA	H
4026SAH→4026SAR Paging	H	DATA	H
CHARGE	L	DATA	H
CH Changing (TALK)	H	L	L

2. TIMING OF IC5 (CPU) OUTPUT PORT WITH THE BASE UNIT IN HANDSET LOCATOR MODE



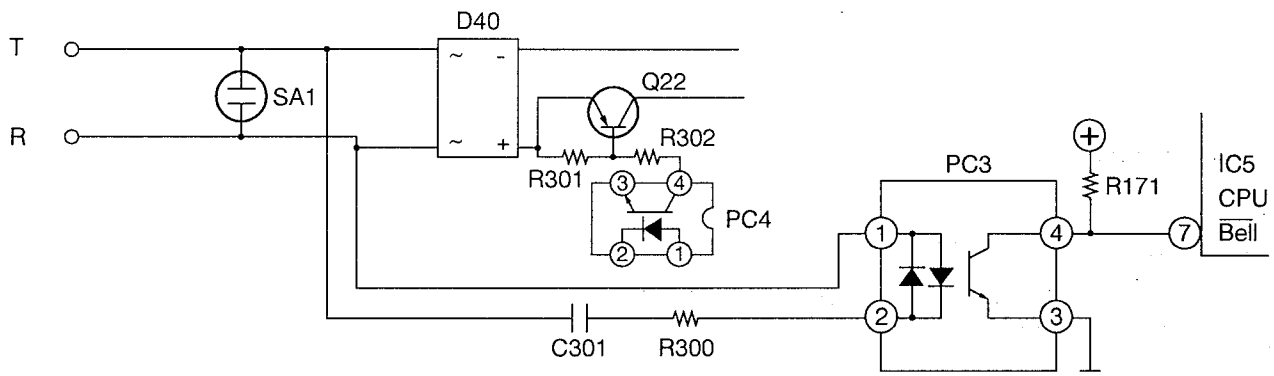
3. WHEN PRESSING THE TALK SWITCH OF THE PORTABLE HANDSET

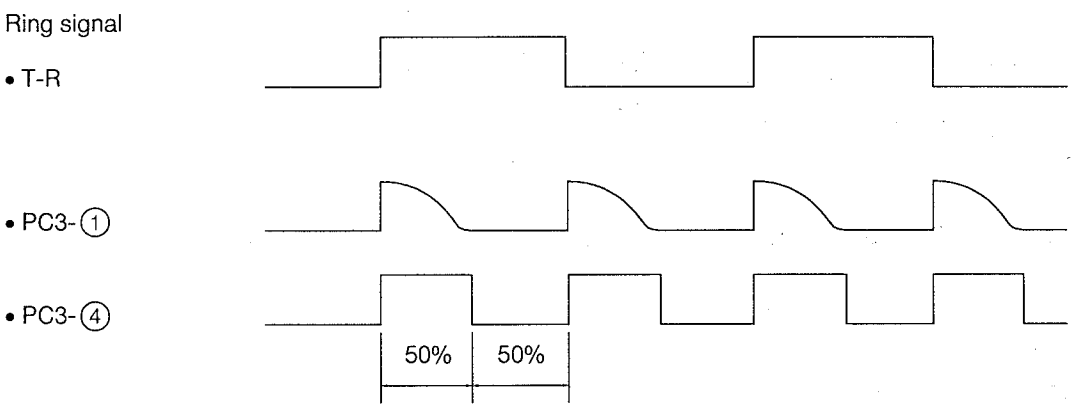
4.THE PORTABLE HANDSET TO OFF



5. RESONANCE PREVENTION CIRCUIT

Circuit Diagram



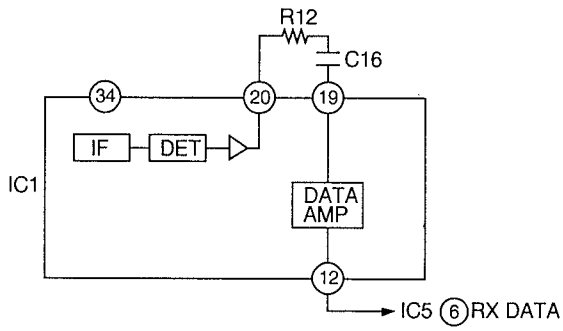


High/low ratio upon ring signal: 50%: 50%
Therefore, if the low/high ratio is greater than 45% at IC5- 7 (CPU), it is judged as a ring signal.

6. EXPLANATION OF THE RECEIVE CIRCUIT

6-1. Signal Flow

Circuit Diagram



In areas where the transmission power from the portable handset is extremely weak, noise is superimposed on the data and the chance of an error increases upon reception of the data. To help prevent this, the above circuit is used.

7.EXPLANATION OF THE TRANSMIT CIRCUIT

The voice signal or data signal sent to the portable handset is applied to the cathode and the anode of variable capacitor diode D2, as shown in below Fig. 8.

Circuit Diagram

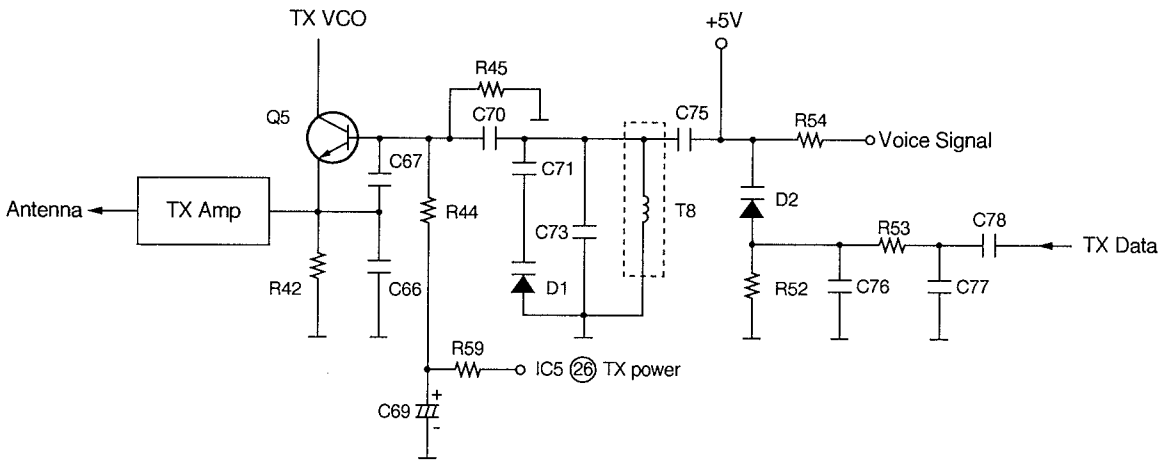
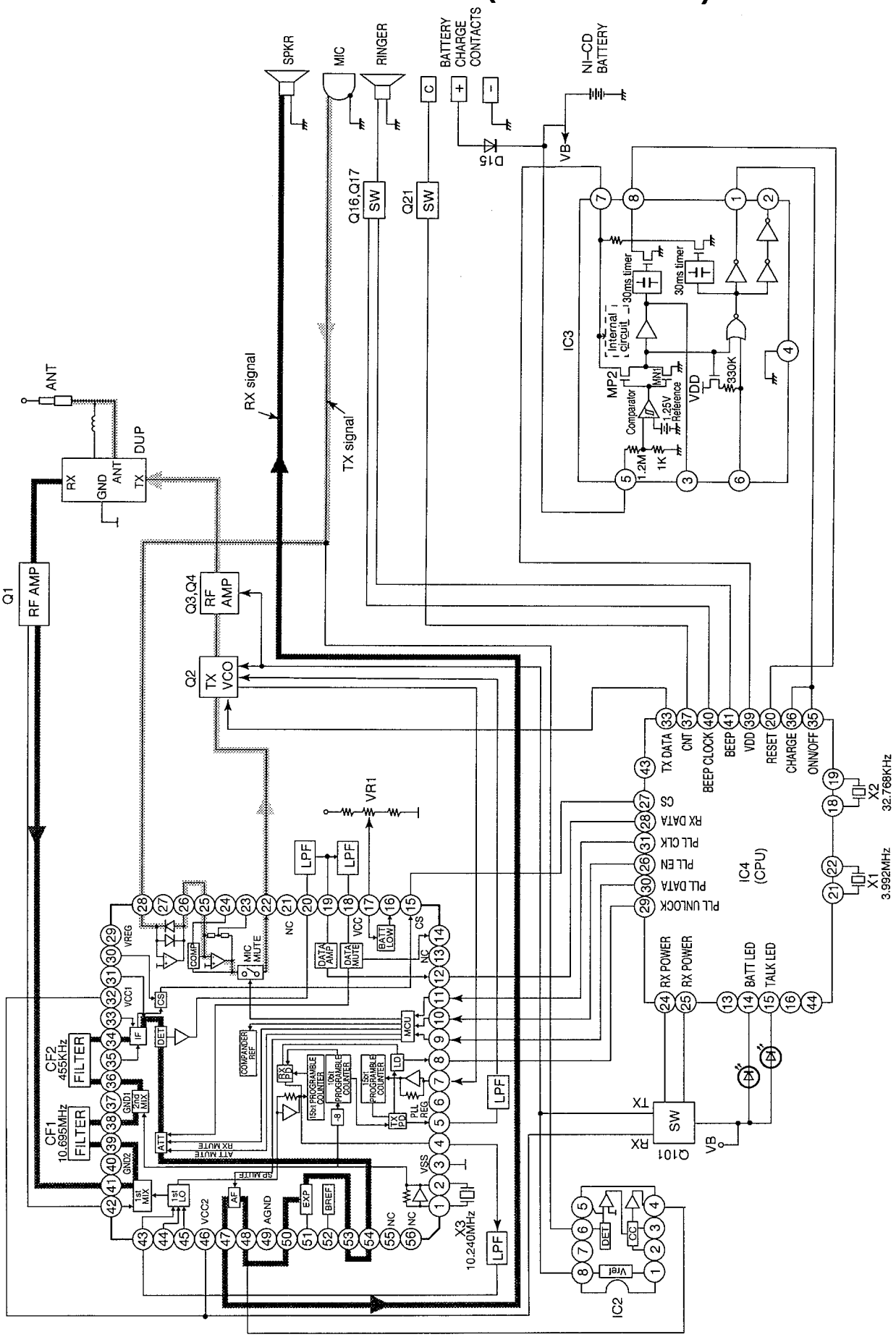


Fig. 8

BLOCK DIAGRAM (KX-T4026SAR)



NEW CIRCUIT OPERATION (KX-T4026SAR)

■ RECEIVER RF IF CIRCUIT

Circuit Operation:

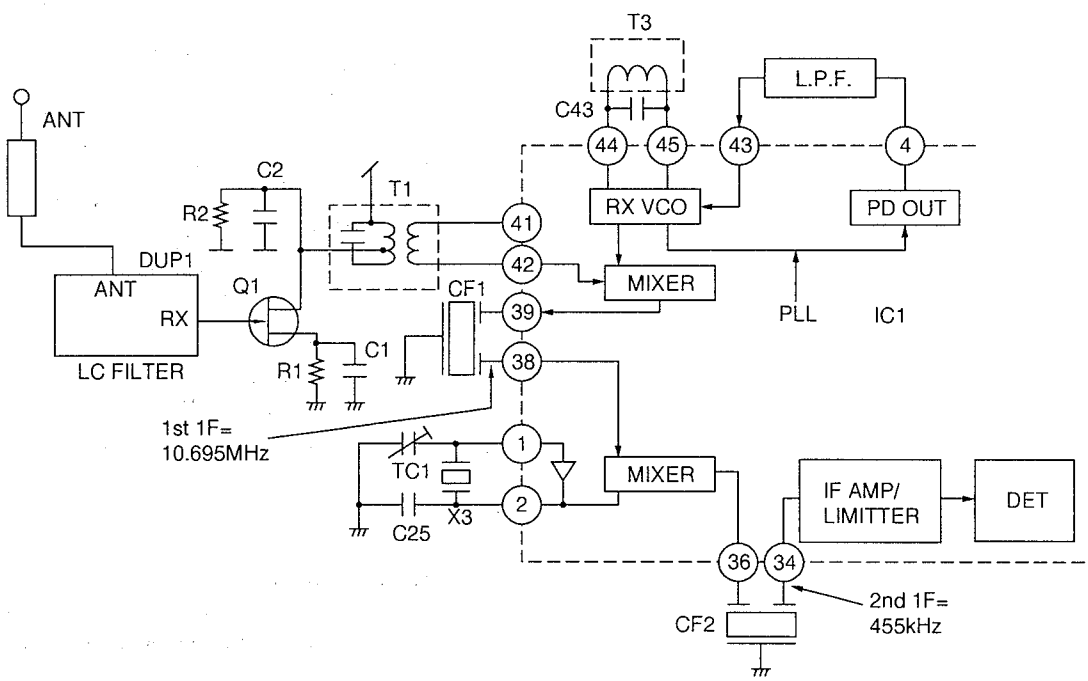
The signal of 46 MHz band (46.61 MHz~46.97 MHz) which is input from ANT is filtered by DUP1, passes through filtered Amp of 46 MHz band at T1 and Q1, and is input to Pin 41 and Pin 42 of IC1.

The RX VCO which oscillates at T3 and IC1 is locked to 1st Local frequency by PLL inside IC1. (PLL is controlled by serial data output from Pin 26, 30 and 31 of IC4.)

An input signal from Pin 41 and 42 of IC1 and 1st Local frequency output from RX VCO are mixed inside IC1, pass through CF1, and 1st IF frequency of 10.695 MHz is generated.

Further, 10.240 MHz and 10.695 MHz oscillated at X3 pass through MIXER inside IC1 and are filtered at CF2 and output 2nd IF 455 kHz.

Circuit Diagram

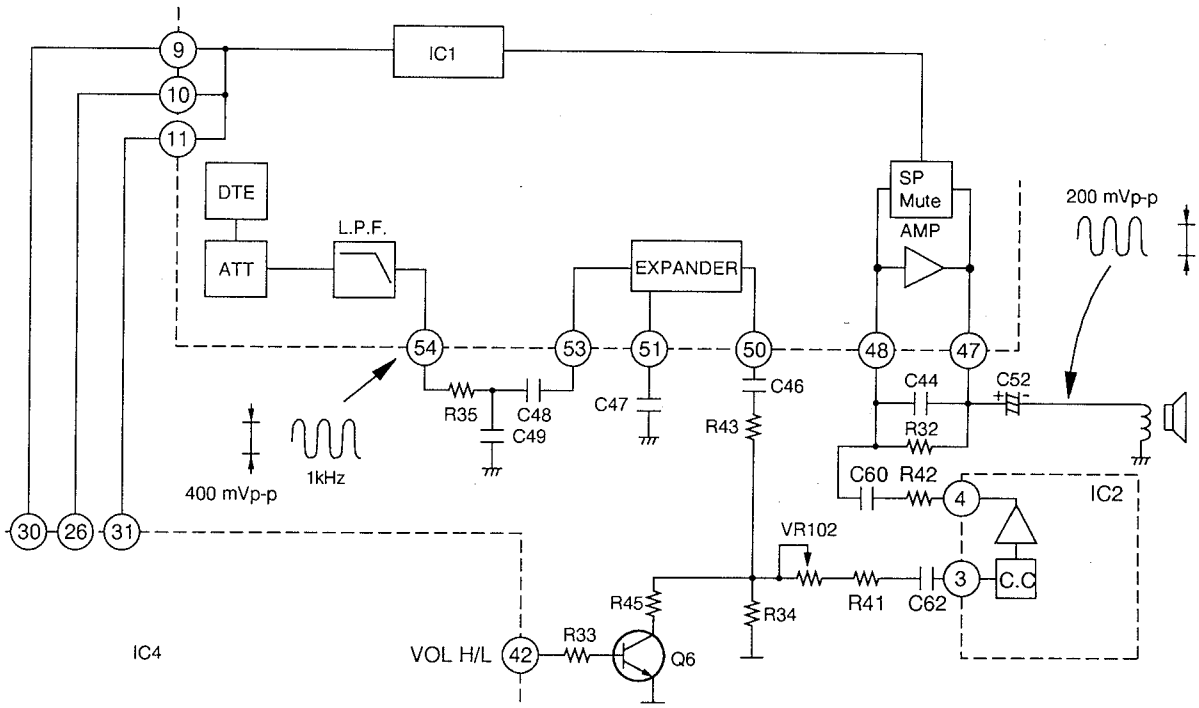


■ RECEIVER SIGNAL CIRCUIT

Circuit Operation:

1. ATT, RX MUTE, MIC MUTE, SP MUTE and PLL CONTROL (CH, REFERENCE, COUNTER) are all controlled by serial data output from Pins 26, 30 and 31 of IC4.
2. A detected signal passes through L.P.F. (fc=4 kHz) inside IC1 and is output to Pin 54.
3. Next, it is input to Pin 53 of IC1, passes through EXPANDER→SP AMP, and is output to speaker.

Circuit Diagram



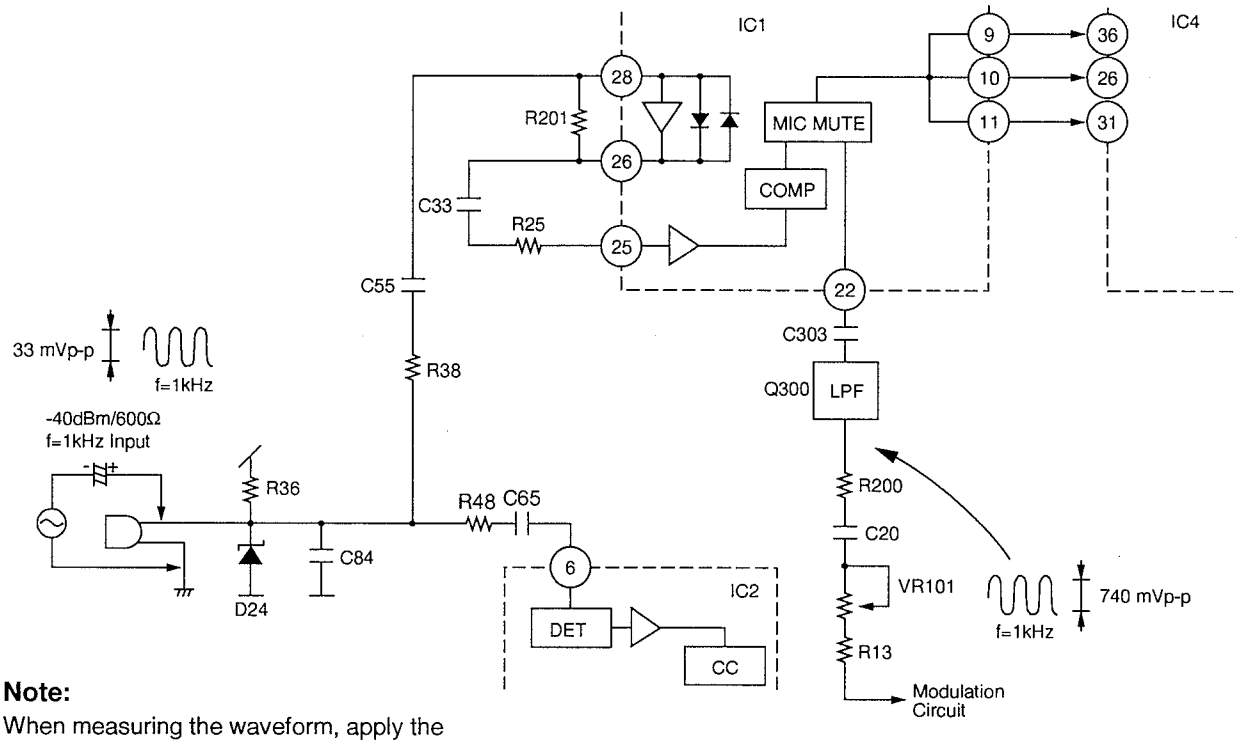
Note: When applying the S.S.G. input level of reception 60 dBμV (3.0 kHz deviation, f=1 kHz) from the antenna, all wave forms are measured.

■ TRANSMITTER SIGNAL CIRCUIT

Circuit Operation:

1. Input signal from MIC is input to Pin 28 of IC1, passes through ALC AMP Limitter and L.P.F. (fc=4 kHz), and is output to Pin 26.
2. Next, it passes through C33 and R25, C34 and is input to Pin 25 of IC1, then passes through COMPRESSOR and L.P.F. (fc=4 kHz), and is output to Pin 22.
3. An output signal from Pin 22 passes through C303, Q300, R200 and C20, VR101 and R13, and is input to modulator circuit.

Circuit Diagram



Note:

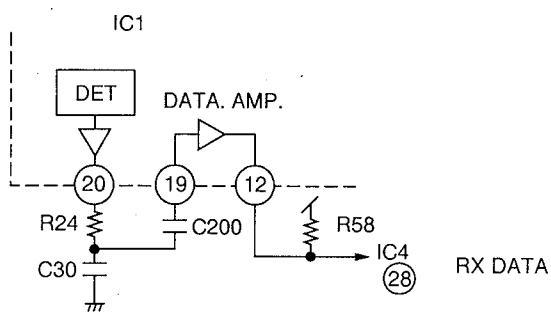
When measuring the waveform, apply the OSC Signal from microphone. [When this value (33 mVpp) is input from the OSC and voice/sounds are output from the microphone, it is necessary for R36 to supply DC voltage to the microphone.]

■ RECEIVER DATA CONTROL CIRCUIT

Circuit Operation:

The received signal that is output from Pin 20 of IC1 passes through a low pass filter and is input to Pin 19 of IC1 where the waveform is adjusted. The resulting signal is output from Pin 12 and input to Pin 28 of CPU.

Circuit Diagram



■ BATTERY DETECTOR CIRCUIT

Circuit Operation:

When the battery voltage goes down and the remaining operating time becomes short, the BATT Low/PROG indicator flashes or beeps intermittently.

NORMAL CIRCUIT OPERATION (KX-T4026ALR)

■ CPU OPERATION

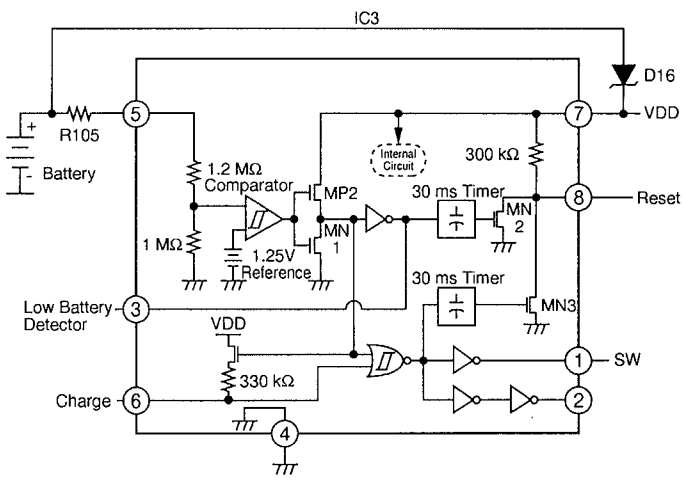
CPU Terminals / Operation Mode	23 TX DATA	25 RX POW	24 TX POW	41 BEEP	15 TALKLED
STANDBY	L	Intermittently H or L	H	H	H
TALK	L	L	L	H	L
4026SAH→4026SARRing	—	L	L	L	FLASHING
4026SAH→4026SAR Paging	—	L	L	L	H
CHARGE	L	H	H	H	H
During (TALK)	—	L	L	H	L
4026SAR TONE DIAL	DATA	L	L	H	L
4026SAR OFF MODE	L	H	H	H	H

■ RESET CIRCUIT POWER ON/OFF CIRCUIT

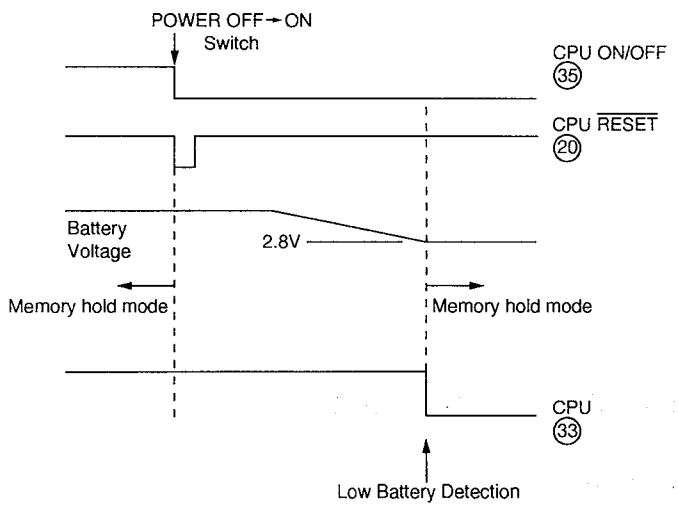
Reset circuit

The reset signal is input to Pin 20 of the CPU by the below circuit.
Once the reset signal is input, the CPU starts to operate from the memory hold mode.
(A) The reset signal will be output when voltage of battery is higher than 2.8 V.

Circuit Diagram



Timing Chart



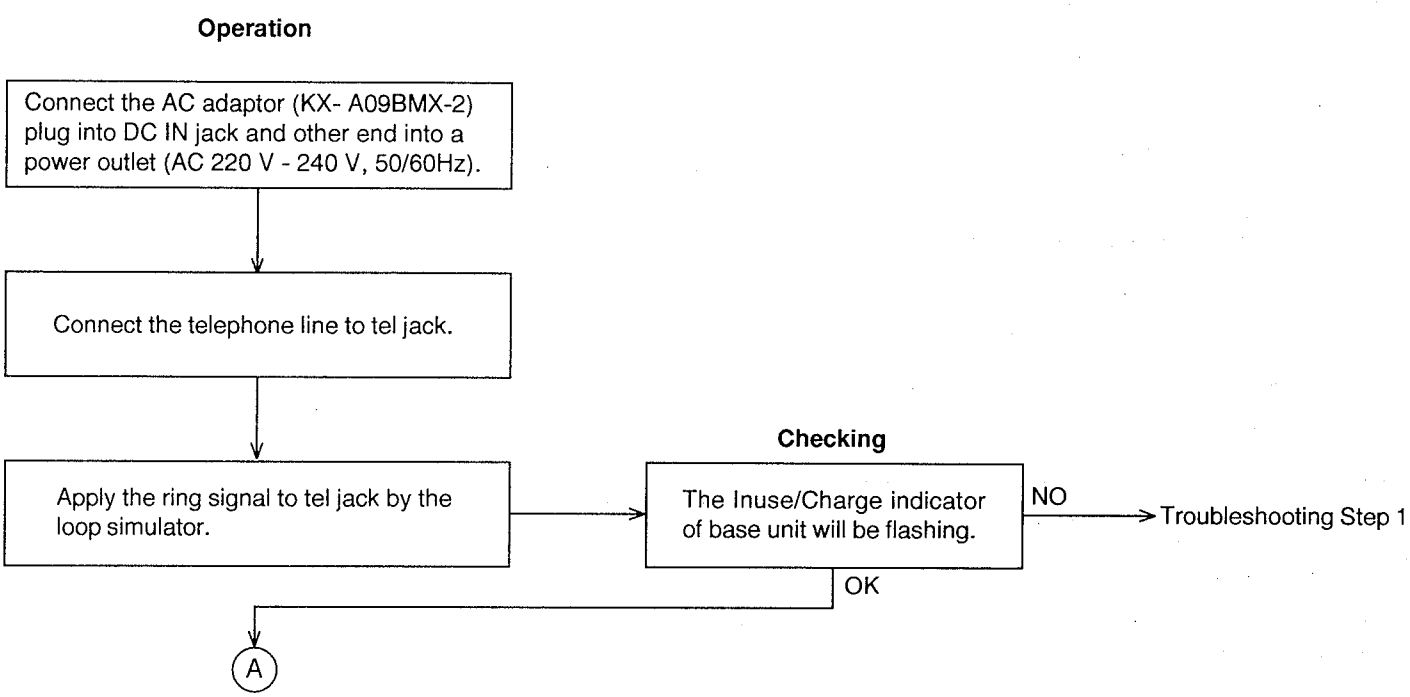
TROUBLESHOOTING GUIDE

Symptom	Refer to page –.	Unit for repair
The base unit does not respond to a call from portable handset.	13	Base Unit
The base unit does not transmit or the transmit frequency is off.		
The transmit frequency is off.		
The transmit power output is low, and the operating distance between base unit and portable handset is less than normal.		
The reception sensitivity of base unit is low with noise.		
The transmit level is large or small.		
The reception level is large or small.		
The unit does not link.		
The IN USE/Charge indicator does not flash.	51	
The charge indicator does not light.	52	
The IN USE/Charge indicator does not flash.	52	
The beep is not heard from the portable handset.	52	
The movement of Battery Low indicator is wrong.	27	Portable Handset
The base unit does not respond to a call from portable handset.		
The base unit does not transmit or the transmit frequency is off.		
The transmit frequency is off.		
The transmit power output is low, and the operating distance between base unit and portable handset is less than normal.		
The reception sensitivity of base unit is low with noise.		
Does not link between base unit and portable handset.		
The reception level is large or small.		
The portable handset does not become battery save mode.	53	
The beep is not heard from the portable handset.	54	
The TALK indicator does not flash.	54	

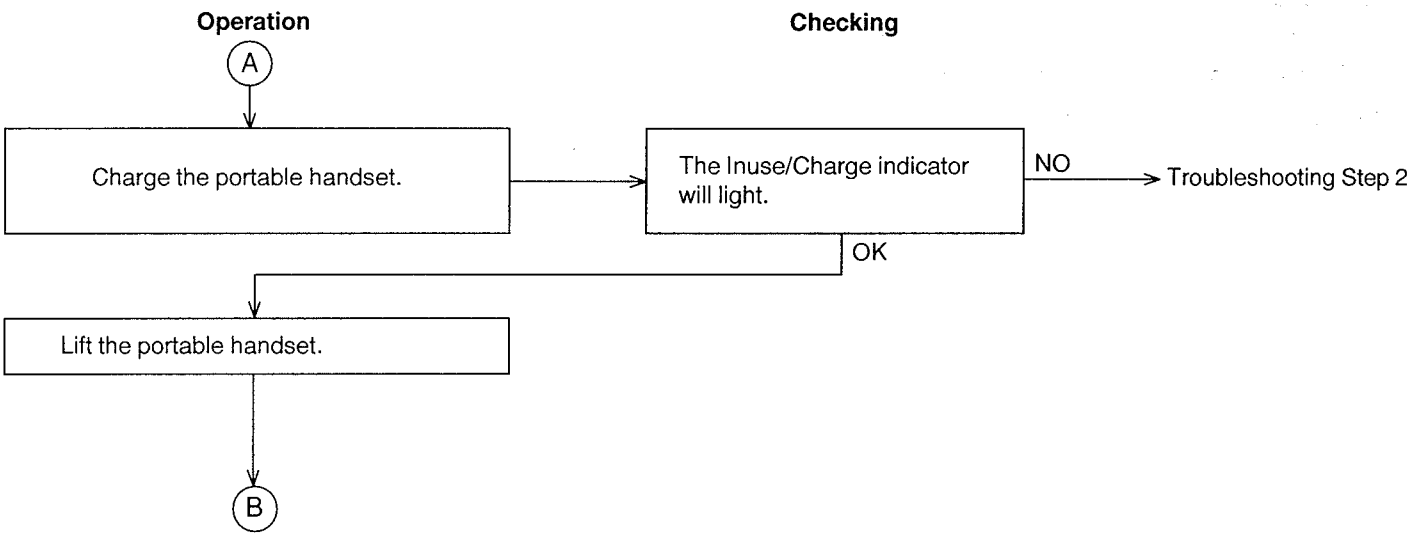
TROUBLESHOOTING GUIDE (KX-T4026SAH)

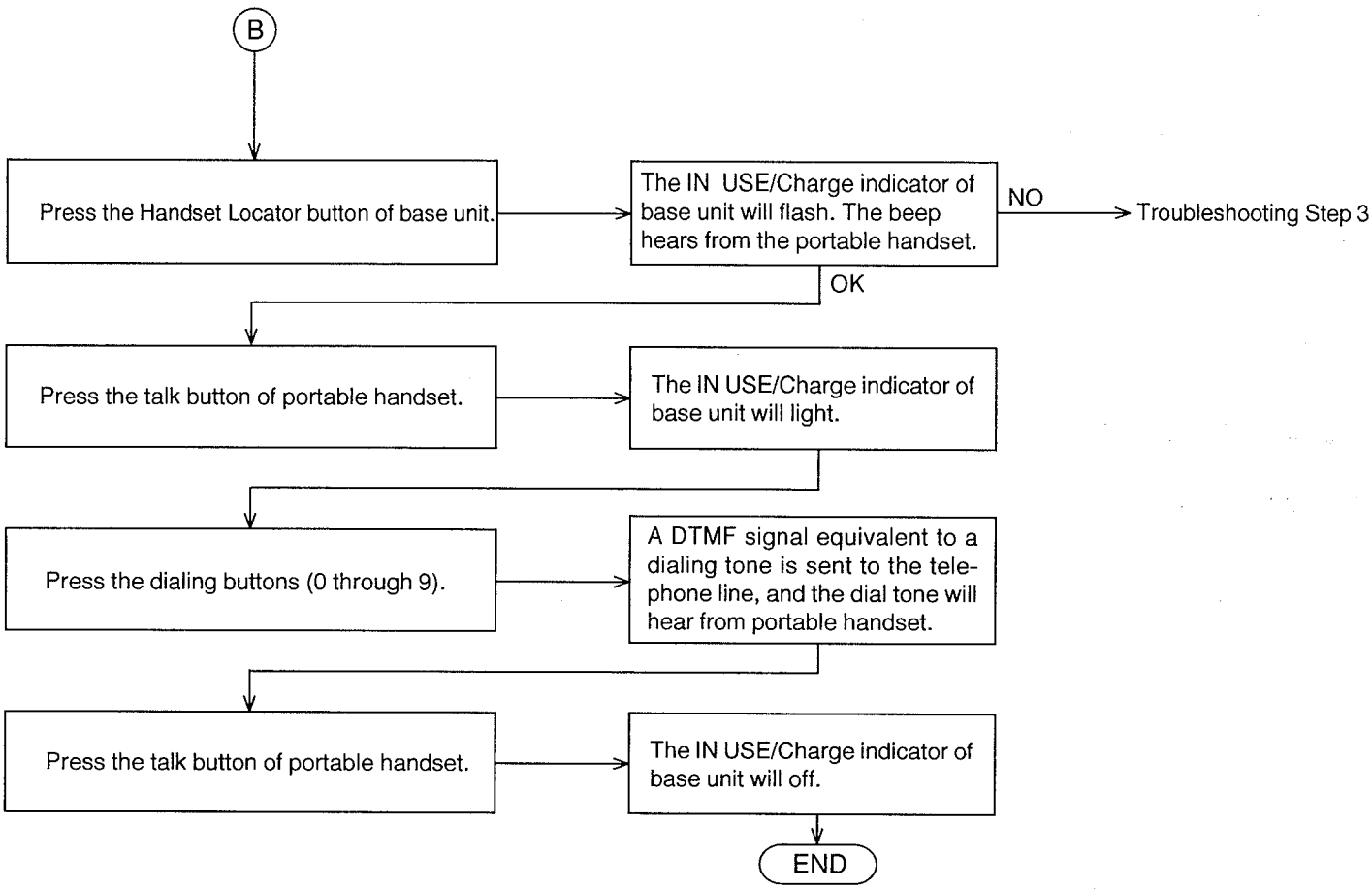
When checking the base unit only

Check the base unit as shown by following below flow chart.


Operation
Connect the AC adaptor (KX- A09BMX-2) plug into DC IN jack and other end into a power outlet (AC 220 V - 240 V, 50/60Hz).
Connect the telephone line to tel jack.
Checking
Apply the ring signal to tel jack by the loop simulator.
The Inuse/Charge indicator of base unit will be flashing.
NO
Troubleshooting Step 1
OK
A

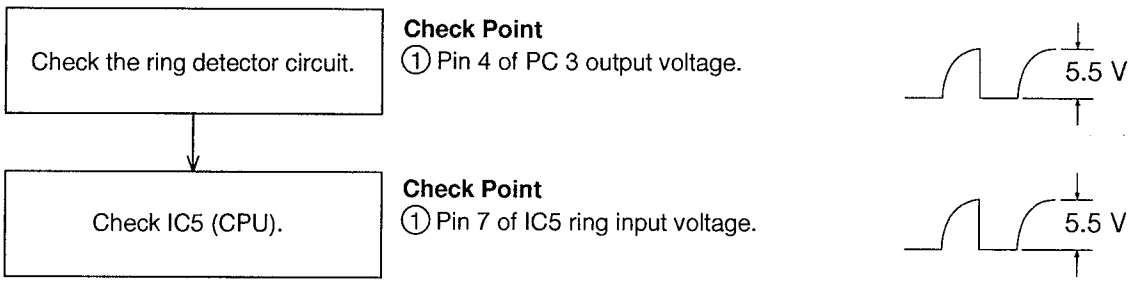
When checking the base unit and portable handset




B
Press the Handset Locator button of base unit.
The IN USE/Charge indicator of base unit will flash. The beep hears from the portable handset.
NO
Troubleshooting Step 3
OK
Press the talk button of portable handset.
The IN USE/Charge indicator of base unit will light.
Press the dialing buttons (0 through 9).
A DTMF signal equivalent to a dialing tone is sent to the telephone line, and the dial tone will hear from portable handset.
Press the talk button of portable handset.
The IN USE/Charge indicator of base unit will off.
END

Troubleshooting Step 1:

The IN USE/Charge indicator does not flash.


Check the ring detector circuit.
Check Point
① Pin 4 of PC 3 output voltage.
5.5 V
Check IC5 (CPU).
Check Point
① Pin 7 of IC5 ring input voltage.
5.5 V

Troubleshooting Step 2: **The charge indicator does not light.**

Check the charge detector circuit.

↓

Check LED6.

Check Point

① Is the ⊖ contact of base unit is low logic level?

Troubleshooting Step 3:

1) The INUSE/CHARGE indicator does not flash.

Check IC5(CPU).

↓

Check LED6.

Check Point

① Is the pin 48 of IC5 (INUSE/Charge output) at a low logic level?

2) The beep is not heard from the portable handset.

Check the data transmition during charge mode.

↓

Check the modulation circuit(D2).

↓

Check the oscillation circuit.

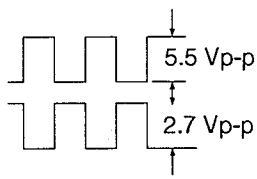
↓

Check the transmitter amplifier.

Check Points

① Pin 27 of IC5 data output voltage.

② Collector of Q16 output voltage.



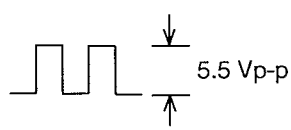
Check during charge mode

Check Point

① Is the base of Q5 (TX VCO) 4 V?

② Is the Pin 5 of IC1 2.1 V?

③ Are the Pins 3, 49 ,50 of IC5 (PLL control)?



Check Point

① Is the base of Q7 (Final power amplifier) 2 V?

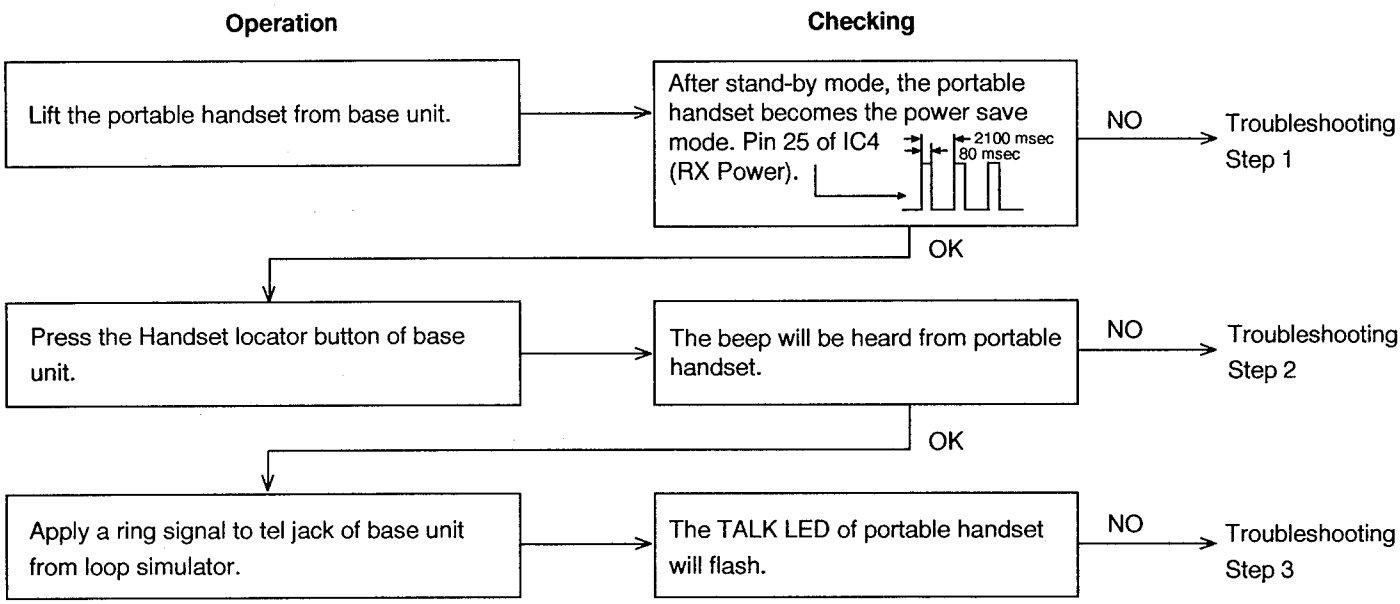
TROUBLESHOOTING GUIDE (KX-T4026SAR)

Match the right base unit with the portable handset for this troubleshooting guide.
Charge the battery of the portable handset by the base unit.

Base unit condition:

1. Connect the AC Adaptor (KX-A09BMX-2) plug into DC IN jack and the other end into a power outlet (AC 220 V - 240 V, 50/60 Hz).
2. Connect the loop simulator (DC 12 V) to tel jack.

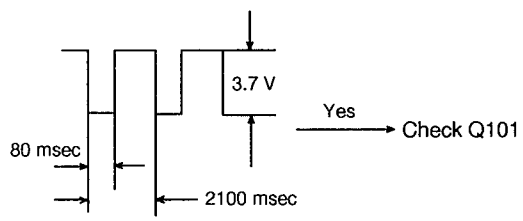
Check the portable handset as shown by following below flow chart.


Operation
Checking
Lift the portable handset from base unit.
After stand-by mode, the portable handset becomes the power save mode. Pin 25 of IC4 (RX Power).
2100 msec
80 msec
NO
Troubleshooting Step 1
OK
Press the Handset locator button of base unit.
The beep will be heard from portable handset.
NO
Troubleshooting Step 2
OK
Apply a ring signal to tel jack of base unit from loop simulator.
The TALK LED of portable handset will flash.
NO
Troubleshooting Step 3

Troubleshooting Step 1: **The portable handset does not become battery save mode.**

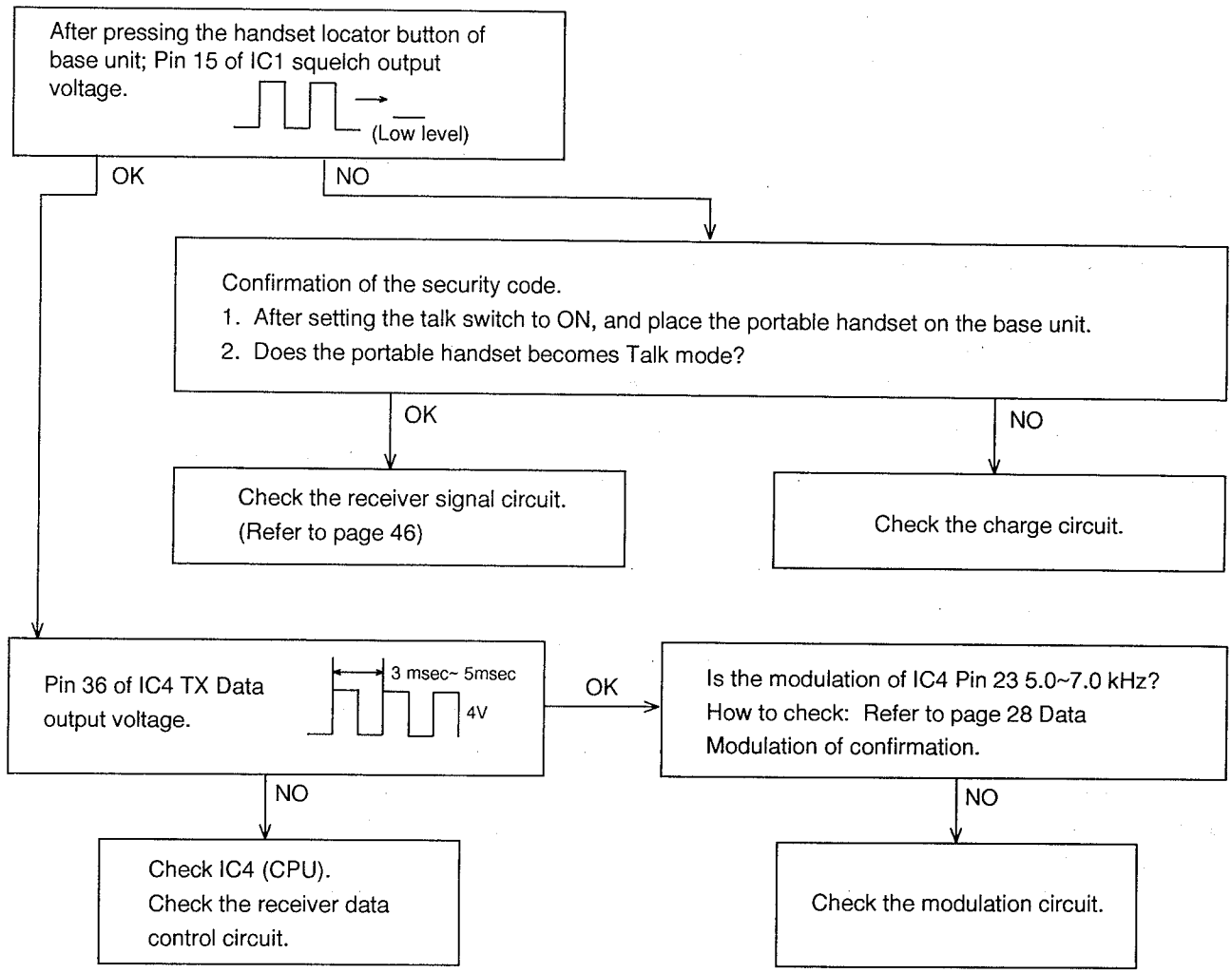
Check point

(1) Pin 25 of IC 4
RX power output voltage



Troubleshooting Step 2: **The beep is not heard from the portable handset.**

Check Points

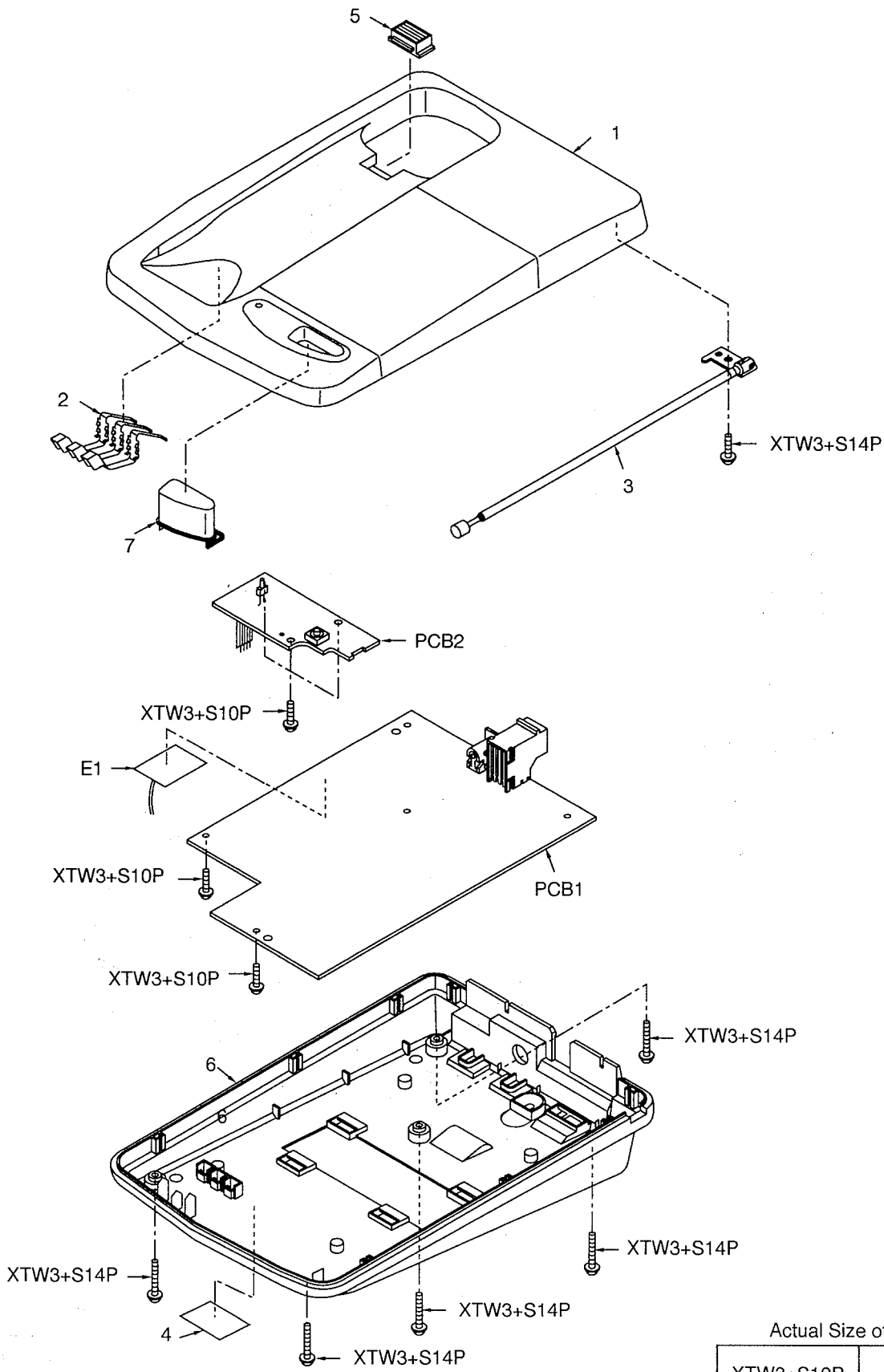

After pressing the handset locator button of base unit; Pin 15 of IC1 squelch output voltage.
(Low level)
OK
NO
Confirmation of the security code.
1. After setting the talk switch to ON, and place the portable handset on the base unit.
2. Does the portable handset becomes Talk mode?
OK
NO
Check the receiver signal circuit. (Refer to page 46)
Check the charge circuit.
Pin 36 of IC4 TX Data output voltage.
3 msec~ 5msec
4V
OK
Is the modulation of IC4 Pin 23 5.0~7.0 kHz? How to check: Refer to page 28 Data Modulation of confirmation.
NO
NO
Check IC4 (CPU). Check the receiver data control circuit.
Check the modulation circuit.

Troubleshooting Step 3: **The TALK indicator does not flash (Check the data reception).**

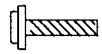
Check Point

Check the signal level of receiver data control circuit on page 47.

CABINET AND ELECTRICAL PARTS LOCATION (KX-T4026SAH)

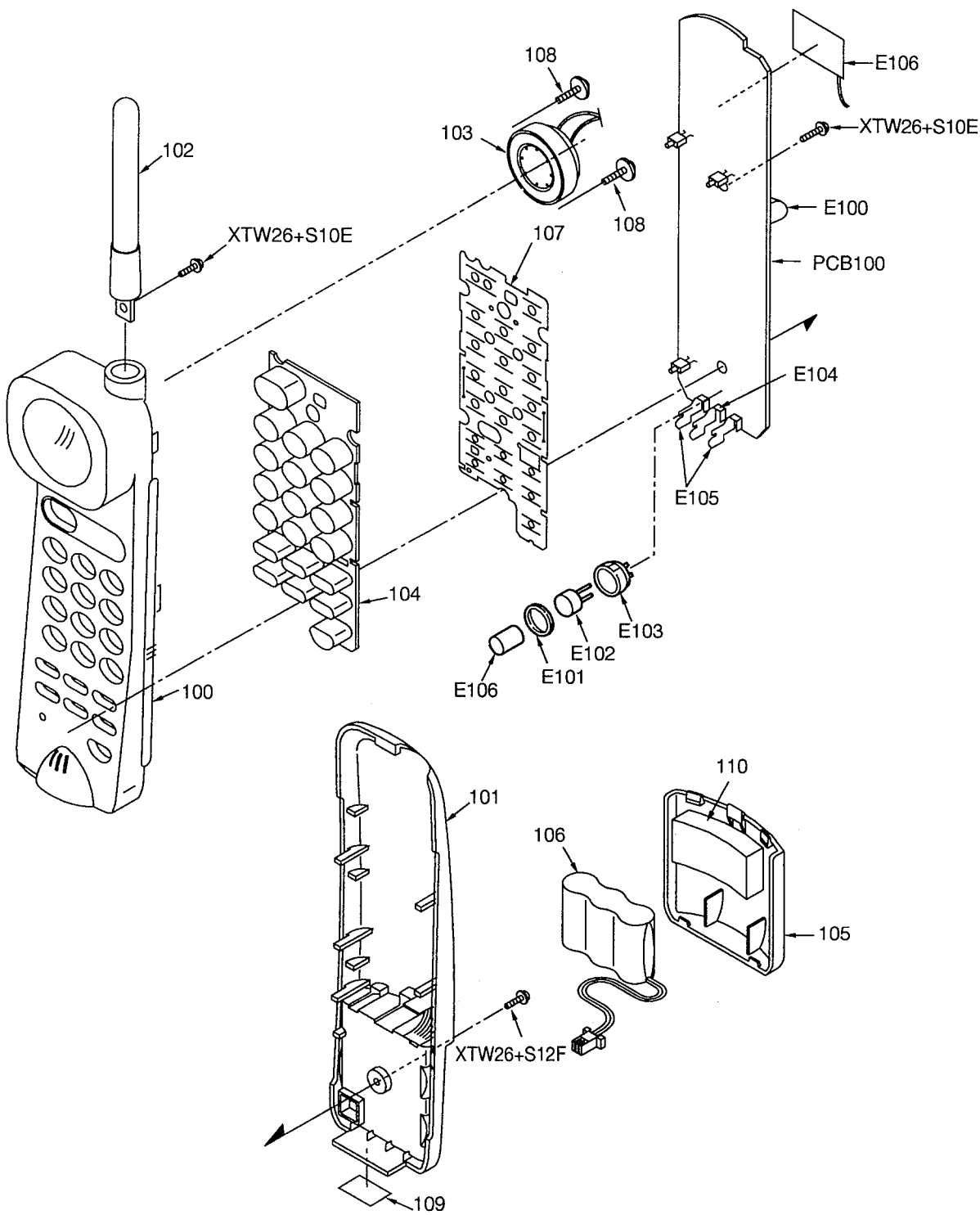


Actual Size of Screws

XTW3+S10P	
XTW3+S14P	

KX-T4026SA

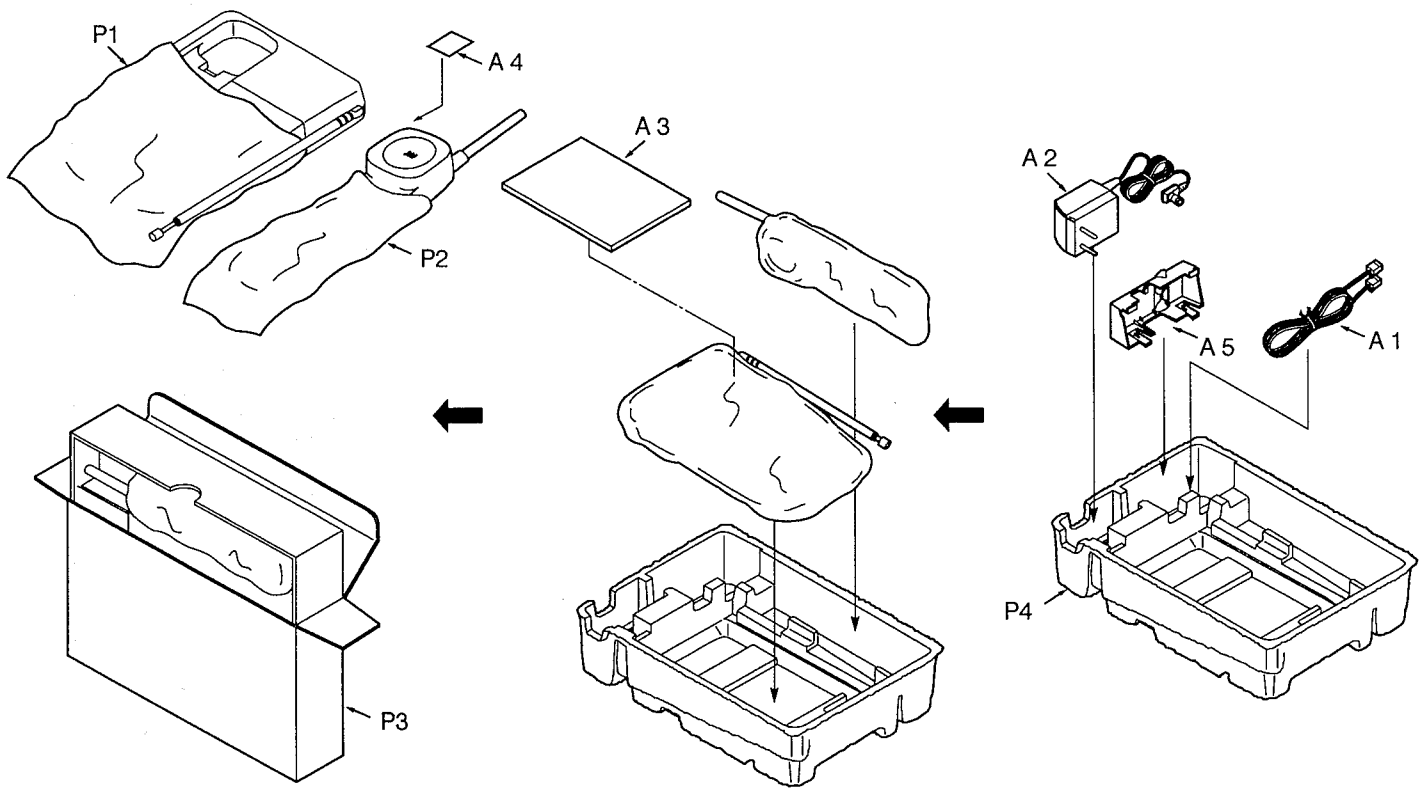
CABINET AND ELECTRICAL PARTS LOCATION (KX-T4026SAR)



Actual Size of Screws

XTW26+S10E	
XTW26+S12F	

ACCESSORIES AND PACKING MATERIALS



This replacement parts list is South Africa version only. Refer to the simplified manual (cover) for other areas.

REPLACEMENT PARTS LIST

Model KX-T4026SAH

Notes:

1. RTL (Retention Time Limited)
   The marking (RTL) indicates that the Retention Time is limited for this item. After the discontinuation of this assembly in production, the item will continue to be available for a specific period of time. The retention period of availability is dependent on the type of assembly, and in accordance with the laws governing part and product retention.
   After the end of this period, the assembly will no longer be available.
2. Important safety notice.
   Components identified by ⚠ mark have special characteristics important for safety. When replacing any of these components, use only manufacturer's specified parts.
3. The S mark indicates service standard parts and may differ from production parts.
4. RESISTORS & CAPACITORS
   Unless otherwise specified.
   All resistors are in ohms (Ω) K=1000Ω, M=1000KΩ
   All capacitors are in MICRO FARADS (μF) P= μμF
   *Type &Wattage of Resistor
   Type

ERC:Solid	ERX:Metal Film	PQ4R:Carbon
ERD:Carbon	ERG:Metal Oxide	ERS:Fusible Resistor
PQRD:Carbon	ER0:Metal Film	ERF:Cement Resistor

   Wattage

10,16:1/8W	14,25:1/4W	12:1/2W	1:1W	2:2W	3:3W

   *Type & Voltage of Capacitor
   Type

ECFD:Semi-Conductor	ECCD,ECKD,ECBT,PQCBC : Ceramic
ECQS:Styrol	ECQE,ECQV,ECQG : Polyester
PQCUV:Chip	ECEA,ECSZ : Electrolytic
ECQMS:Mica	ECQP : Polypropylene

   Voltage

ECQ Type	ECQG ECQV Type	ECSZ Type	Others	
1H: 50V	05: 50V	0F:3.15V	0J :6.3V	1V :35V
2A:100V	1:100V	1A:10V	1A :10V	50,1H:50V
2E:250V	2:200V	1V:35V	1C :16V	1J :63V
2H:500V		0J:6.3V	1E,25:25V	2A :100V

Ref. No.	Part No.	Part Name & Description	Pcs/Set
		CABINET PARTS	
1	PQKM10246V2	UPPER CABINET	1
2	PQJT10100Z	BATTERY TERMINAL	3
3	XEAPQK170D	ANTENNA	1
4	PQGT12585Z	NAME PLATE	1
5	PQKE46Y3	HANGER	1
6	PQYF10086E2	LOWER CABINET	1
7	PQBC10187Z2	BUTTON, HANDSET LOCATOR	1
		MAIN PRINTED CIRCUIT BOARD PARTS	
PCB1	PQWP14026SAH	MAIN, P.C.BOARD ASS'Y (RTL) ⚠	1
		(ICS)	
IC1	AN6185NFA	IC	1
IC5	MN150832KKAF	IC	1

Ref. No.	Part No.	Part Name & Description		Pcs/Set
		(TRANSISTORS)		
Q 1	2SK543	TRANSISTOR(SI)		1
Q 2	2SD1819A	TRANSISTOR(SI) [or 2SC4081]		1
Q 5	2SC2295	TRANSISTOR(SI)		1
Q 6	PQVTMSC2295C	TRANSISTOR(SI)		1
Q 7	2SC2295	TRANSISTOR(SI)	S	1
Q 8	2SD1819A	TRANSISTOR(SI) [or 2SC4081]		1
Q 9	2SB1322	TRANSISTOR(SI)		1
Q10	2SD1991A	TRANSISTOR(SI)		1
Q11	2SD2136	TRANSISTOR(SI)		1
Q12	2SD1819A	TRANSISTOR(SI) [or 2SC4081]		1
Q13	2SB1218A	TRANSISTOR(SI) [or 2SA1576]		1
Q14	2SD1819A	TRANSISTOR(SI) [or 2SC4081]		1
Q16	2SC1740S	TRANSISTOR(SI) [or 2SC3311 or 2SC3330]		1
Q19	2SC1740S	TRANSISTOR(SI) [or 2SC3311 or 2SC3330]		1
Q22	2SA1776P	TRANSISTOR(SI) [or 2SA1625]	S	1
Q23	2SA1776P	TRANSISTOR(SI) [or 2SA1625]	S	1
Q25	2SC2120	TRANSISTOR(SI)		1
Q28	2SD1819A	TRANSISTOR(SI) [or 2SC4081]		1
Q29	2SD1819A	TRANSISTOR(SI) [or 2SC4081]		1
Q30	2SD1819A	TRANSISTOR(SI) [or 2SC4081]		1
Q31	2SD1819A	TRANSISTOR(SI) [or 2SC4081]		1
Q32	2SD1819A	TRANSISTOR(SI) [or 2SC4081]		1
Q33	2SD1819A	TRANSISTOR(SI) [or 2SC4081]		1
Q34	2SB1218A	TRANSISTOR(SI) [or 2SA1576]		1
Q40	2SA1776P	TRANSISTOR(SI) [or 2SA1625]	S	1
Q41	UN5213	TRANSISTOR(SI)		1
Q42	UN5213	TRANSISTOR(SI)		1
		(DIODES)		
D 1	MA840BTAKU	DIODE(SI)	S	1
D 2	MA840ATAKU	DIODE(SI)		1
D 3	MA4062	DIODE(SI)	S	1
D 4	MA4100	DIODE(SI)	S	1
D 5	1SS120	DIODE(SI)	S	1
D 6	MA4047	DIODE(SI)		1
D 7	1SS120	DIODE(SI)		1
D 8	1SS120	DIODE(SI)		1
D10	1SS120	DIODE(SI)		1
D12	MA4300	DIODE(SI)		1
D13	MA4300	DIODE(SI)		1
D14	MA4300	DIODE(SI)		1
D15	1SS120	DIODE(SI)		1
D24	MA4300	DIODE(SI)		1
D27	MA4091	DIODE(SI)		1
D40	PQVDS1ZB40F1	DIODE(SI)		1
DG	MA110	DIODE(SI)		1
		(CERAMIC FILTERS)		
CF1	PQVFSFE107MJ	CERAMIC FILTER	S	1
CF2	PQVFCFH455F1	CERAMIC FILTER		1

This replacement parts list is South Africa version only. Refer to the simplified manual (cover) for other areas.

Ref. No.	Part No.	Part Name & Description	Pcs/Set
		(COILS AND TRSNSFORMERS)	
L 1	PQLA7N2	COIL	1
L 3	ELEPK100KA	COIL	1
L 4	ELEPK100KA	COIL	1
L 5	PQLQZMR56K	COIL	1
L 6	PQLQZM1R5K	COIL	1
L 8	PQLQZM330K	COIL	1
L 9	PQLQZM330K	COIL	1
L10	PQLQZM330K	COIL	1
L11	PQLQZM1R0K	COIL	1
L12	PQLA7N1	COIL	1
L15	PQLQZK1R5K	COIL	1
T 1	PQLE513	COIL	1
T 2	PQLE512	COIL	1
T 3	PQLA7A7	COIL S	1
T 4	PQLI2B201	I.F. TRANSFORMER	1
T 5	PQLA7A20	COIL	1
T 6	PQLA7A9	COIL	1
T 8	PQLA7A22	COIL	1
T 9	PQLA7A9	COIL	1
T10	PQLT8F11A	TRANSFORMER ⚠	1
T11	PQLT8F11A	TRANSFORMER ⚠	1
		(PHOTO COUPLERS)	
PC3	PQVIPC814K	PHOTO ELECTRIC TRANSDUCER ⚠	1
PC4	PQVITLP627	PHOTO ELECTRIC TRANSDUCER ⚠	1
PC5	PQVITLP627	PHOTO ELECTRIC TRANSDUCER ⚠	1
PC7	PQVIPC817CD	PHOTO ELECTRIC TRANSDUCER ⚠	1
		(VARIABLE RESISTORS)	
VR1	EVNDXAA03B15	VARIABLE RESISTOR	1
VR2	EVNDXAA03B24	VARIABLE RESISTOR	1
VR4	EVNDXAA03B15	VARIABLE RESISTOR	1
		(CRYSTALS)	
X1	PQVCJ3581N9Z	CRYSTAL OSCILLATOR	1
X2	PQVCJ10240C5	CRYSTAL OSCILLATOR	1
		(OTHERS)	
CT1	ECRLA030E53	TRIMMER CAPACITOR	1
E1	PQMC10226Z	MAGNETIC SHIELD PARTS	1
JJ1	PQJJ2HA2Z	JACK, TELEPHONE LINE, DC IN	1
SA1	PQVDDSS301L	VARISTOR	1
SA2	PQVDDSP272MR	VARISTOR ⚠	1
SW1	PQSS2A27W	SWITCH, DIALING MODE SELECTOR	1

Ref. No.	Part No.	Value	Pcs/Set
		(RESISTOR)	
R 1	ERJ3GEYJ101	100	1
R 2	Not Used		
R 3	ERJ3GEYJ683	68K	1
R 4	PQ4R10XJ124	120K S	1
R 5	Not Used		
R 6	ERDS2TJ103	10K	1
R 7	PQ4R10XJ105	1M S	1
R 8	Not Used		
R 9	ERJ3GEYJ563	56K	1
R11	PQ4R10XJ472	4.7K S	1
R12	ERJ3GEYJ103	10K	1
R13	ERJ3GEYJ272	2.7K	1
R14	ERJ3GEYJ104	100K	1
R15	ERJ3GEYJ102	1K	1
R16	ERJ3GEYJ333	33K	1
R17	Not Used		
R18	ERJ3GEYJ152	1.5K	1
R19	ERJ3GEYJ223	22K	1
R21	ERJ3GEYJ333	33K	1
R22	Not Used		
R23	ERJ3GEY0R00	0	1
R24	ERJ3GEY0R00	0	1
R25	ERJ3GEYJ823	82K	1
R26	ERJ3GEYJ183	18K	1
R27	ERJ3GEY0R00	0	1
R28	ERJ3GEY0R00	0	1
R29	PQ4R10XJ103	10K S	1
R41	ERJ3GEYJ680	68	1
R42	ERJ3GEYJ681	680	1
R43	ERJ3GEYJ184	180K	1
R44	ERJ3GEYJ473	47K	1
R45	ERJ3GEYJ473	47K	1
R46	ERJ3GEYJ683	68K	1
R47	ERJ3GEYJ223	22K	1
R48	ERJ3GEYJ104	100K	1
R49	ERJ3GEYJ682	6.8K	1
R50	PQ4R10XJ222	2.2K S	1
R51	ERJ3GEYJ103	10K	1
R52	ERJ3GEYJ473	47K	1
R53	ERJ3GEYJ474	470K	1
R54	ERJ3GEYJ223	22K	1
R55	ERJ3GEYJ104	100K	1
R56	ERJ3GEY0R00	0	1
R57	ERJ3GEYJ104	100K	1
R58	ERJ3GEYJ155	1.5M	1
R59	ERJ3GEYJ221	220	1
R61	ERJ3GEYJ103	10K	1
R62	ERJ3GEYJ221	220	1
R63	ERJ3GEYJ334	330K	1
R64	Not Used		
R65	ERJ3GEYJ683	68K	1
R66	ERJ3GEYJ102	1K	1
R67	Not Used		
R68	ERJ3GEYJ103	10K	1
R69	ERJ3GEYJ224	220K	1
R70	ERJ3GEYJ332	3.3K	1

KX-T4026SA

This replacement parts list is South Africa version only. Refer to the simplified manual (cover) for other areas.

Ref. No.	Part No.	Value		Pcs/Set
R71	ERJ3GEYJ102	1K		1
R91	ERJ3GEYJ472	4.7K		1
R92	ERJ3GEYJ472	4.7K		1
R93	ERJ3GEYJ472	4.7K		1
R94	ERJ3GEYJ104	100K		1
R95-97	Not Used			
R98	ERJ3GEYJ472	4.7K		1
R99	ERJ3GEYJ472	4.7K		1
R100	ERJ3GEYJ104	100K		1
R101~104	Not Used			
R105	PQ4R18XJ104	100K	S	1
R106	ERJ3GEYJ104	100K		1
R111	ERJ3GEYJ102	1K		1
R112	Not Used			
R113	ERJ3GEYJ102	1K		1
R114	ERJ3GEYJ104	100K		1
R115	Not Used			
R116	PQ4R10XJ273	27K	S	1
R117	ERJ3GEYJ333	33K		1
R118	ERJ3GEYJ333	33K		1
R119	ERJ3GEYJ683	68K		1
R121	ERJ3GEYJ393	39K		1
R122	ERJ3GEYJ183	18K		1
R123	ERJ3GEYJ102	1K		1
R124	ERJ3GEYJ564	560K		1
R125	ERJ3GEYJ223	22K		1
R126	ERJ3GEYJ682	6.8K		1
R127	ERJ3GEYJ822	8.2K		1
R128	ERJ3GEYJ821	820		1
R129	ERJ3GEYJ562	5.6K		1
R130	ERJ3GEYJ104	100K		1
R131	PQ4R10XJ102	1K	S	1
R132	ERJ3GEYJ104	100K		1
R133	ERJ3GEYJ104	100K		1
R134	ERJ3GEYJ104	100K		1
R135	ERJ3GEYJ472	4.7K		1
R136	Not Used			
R137	ERJ3GEYJ104	100K		1
R138	ERJ3GEYJ104	100K		1
R139	ERJ3GEYJ823	82K		1
R140	ERJ3GEYJ103	10K		1
R141	ERJ3GEYJ103	10K		1
R142	ERDS2TJ102	1K		1
R143	ERJ3GEYJ103	10K		1
R144	ERDS2TJ101	100		1
R145	ERDS2TJ332	3.3K		1
R146	Not Used			
R147	ERJ3GEYJ473	47K		1
R151	ERDS2TJ471	470		1
R152	ERDS2TJ472	4.7K		1
R153	ERDS2TJ181	180		1
R154	ERDS2TJ103	10K		1
R155	ERJ3GEYJ472	4.7K		1
R156	ERJ3GEYJ472	4.7K		1
R161	ERJ3GEYJ104	100K		1

Ref. No.	Part No.	Value		Pcs/Set
R170	ERJ3GEYJ473	47K		1
R171	ERJ3GEYJ123	12K		1
R172	ERJ3GEYJ473	47K		1
R173	ERJ3GEYJ224	220K		1
R180	ERJ3GEYJ103	10K		1
R181	Not Used			
R182	ERJ3GEYJ103	10K		1
R183	Not Used			
R184	ERJ3GEYJ102	1K		1
R185	Not Used			
R186	PQ4R18XJ122	1.2K	S	1
R187	ERJ3GEYJ334	330K		1
R188	Not Used			
R189	ERJ3GEYJ271	270		1
R190	ERJ3GEYJ223	22K		1
R191	Not Used			
R192	ERJ3GEYJ103	10K		1
R193	ERJ3GEYJ820	82		1
R194	ERJ3GEYJ684	680K		1
R195	ERJ3GEYJ272	2.7K		1
R196	ERJ3GEYJ103	10K		1
R197	ERJ3GEYJ104	100K		1
R198	ERJ3GEYJ471	470		1
R199	ERJ3GEYJ101	100		1
R221	ERJ3GEYJ274	270K		1
R222	ERJ3GEYJ333	33K		1
R223~227	Not Used			
R228	ERJ3GEYJ104	100K		1
R230	PQ4R10XJ331	330	S	1
R231	Not Used			
R232	Not Used			
R233	ERJ3GEYJ184	180K		1
R234	ERJ3GEY0R00	0		1
R235	ERJ3GEYJ823	82K		1
R236	Not Used			
R237	ERDS2TJ103	10K		1
R300	ERDS2TJ473	47K		1
R301	ERDS2TJ104	100K		1
R302	ERDS2TJ472	4.7K		1
R303	ERDS2TJ104	100K		1
R304	ERDS2TJ101	100		1
R305	ERDS2TJ472	4.7K		1
R311	PQ4R10XJ331	330	S	1
R312	PQ4R10XJ821	820	S	1
R313	PQ4R10XJ153	15K	S	1
R314	PQ4R10XJ122	1.2K	S	1
R315	PQ4R10XJ103	10K	S	1
R316	PQ4R10XJ151	150	S	1
R317	ERDS1TJ330	33	S	1
R318	ERDS1TJ390	39	S	1
R319	PQ4R10XJ332	3.3K	S	1
R331	PQ4R10XJ220	22	S	1
R350	ERDS2TJ120	12		1
R351	ERDS2TJ102	1K		1
R352	PQ4R10XJ123	12K	S	1
R353	ERDS2TJ152	1.5K		1
R354	ERJ3GEYJ103	10K		1

This replacement parts list is South Africa version only. Refer to the simplified manual (cover) for other areas.

Ref. No.	Part No.	Value		Pcs/Set
R355	ERDS2TJ822	8.2K		1
R356	ERJ3GEYJ333	33K		1
R357	ERJ3GEYJ683	68K		1
R358	ERJ3GEY0R00	0		1
R551	ERJ3GEYJ562	5.6K		1
R552	ERJ3GEYJ103	10K		1
R553	ERJ3GEYJ682	6.8K		1
J88	ERJ3GEYJ475	4.7M		1
L2	ERD25VJ0	0		1
J12	ERJ3GEY0R00	0		1
J78	ERJ3GEY0R00	0		1
J87	ERJ3GEY0R00	0		1
J89	ERJ3GEY0R00	0		1
J90	ERJ3GEY0R00	0		1
J91	ERJ3GEY0R00	0		1
J92	ERJ3GEY0R00	0		1
J100	ERJ3GEY0R00	0		1
		(CAPACITORS)		
C 1	ECUV1H103KBV	0.01	S	1
C 2	PQCUV1H103KB	0.01	S	1
C 3	ECUV1E104ZFV	0.1		1
C 4	ECEA1CK101	100	S	1
C 5	PQCUV1H103KB	0.01	S	1
C 6	ECEA1CKS100	10	S	1
C 7	ECUV1C473KBV	0.047		1
C10	ECUV1H103KBV	0.01	S	1
C11	Not Used			
C12	ECEA1HKSR47	0.47	S	1
C13	ECEA1HKS010	1	S	1
C14	PQCUV1E104MD	0.1	S	1
C15	Not Used			
C16	PQCUV1E104MD	0.1	S	1
C17	PQCUV1H153KB	0.015	S	1
C18	Not Used			
C19	PQCUV1E104MD	0.1	S	1
C20	PQCUV1C224KB	0.22		1
C21	Not Used			
C22	PQCUV1H101JC	100P		1
C23	ECEA1HKSR47	0.47	S	1
C24	ECEA1CKS100	10	S	1
C25	ECUV1H100DCV	10P		1
C26	PQCUV1E223KB	0.022		1
C27	ECEA1HKS3R3	3.3	S	1
C28	ECUV1H472KBV	0.0047		1
C29	Not Used			

Ref. No.	Part No.	Value		Pcs/Set
C33	PQCUV1E104MD	0.1	S	1
C34	ECEA1CKS100	10	S	1
C35	ECEA1HKSR47	0.47	S	1
C36	PQCUV1E104MD	0.1	S	1
C37	Not Used			
C38	Not Used			
C39	ECUV1H101JCV	100P		1
C40	PQCUV1H390JC	39P		1
C41	ECUV1E104ZFV	0.1		1
C42	ECUV1H103KBV	0.01	S	1
C43	ECUV1H103KBV	0.01		1
C44	Not Used			
C45	Not Used			
C46	PQCUV1H103KB	0.01	S	1
C47	Not Used			
C48	PQCUV1H180JC	18P		1
C49	ECUV1H103KBV	0.01		1
C52	PQCUV1E104MD	0.1		1
C53~58	Not Used			
C59	ECUV1H103KBV	0.01	S	1
C60	ERJ3GEY0R00	0		1
C61	PQCUV1H1R5CC	1.5		1
C62	Not Used			
C63	Not Used			
C64	PQCUV1H100DC	10P		1
C65	ECUV1H103KBV	0.01	S	1
C66	PQCUV1H470JC	47P		1
C67	PQCUV1H680JC	68P		1
C68	Not Used			
C69	ECEA1HKS010	1	S	1
C70	ECUV1H270JCV	27P		1
C71	ECUV1H180JCV	18P		1
C72	PQCUV1E104MD	0.1		1
C73	PQCUV1H200JC	20P		1
C74	ECEA1VKS4R7	4.7	S	1
C75	ECUV1H2R5CCV	2.5		1
C76	ECUV1H681JCV	680P		1
C77	PQCUV1H102J	1000P	S	1
C78	ECUV1H103KBV	0.01		1
C79	Not Used			
C83	PQCUV1H102J	1000P	S	1
C84	ECUV1H102KBV	1000P		1
C85	Not Used			
C86	Not Used			
C87	PQCUV1H101JC	100P		1
C88	PQCUV1E104MD	0.1	S	1
C91	ERJ3GEY0R00	0		1
C100	ECUV1H220JCV	22P		1
C101	ECUV1H220JCV	22P		1
C102	ECUV1E104ZFV	0.1		1
C103	ECUV1E104ZFV	0.1		1
C104	Not Used			
C105	ECUV1H101JCV	100P		1
C106	PQCUV1C105ZF	1		1
C107	PQCUV1H103KB	0.01	S	1
C108	Not Used			
C109	Not Used			

KX-T4026SA

This replacement parts list is South Africa version only. Refer to the simplified manual (cover) for other areas.

Ref. No.	Part No.	Value		Pcs/Set
C110	ECEA1CKS100	10	S	1
C111	ECUV1H271KBV	270P		1
C112	PQCUV1E104MD	0.1	S	1
C113	ECEA1CKS100	10	S	1
C114	Not Used			
C115	Not Used			
C116	PQCUV1E104MD	0.1	S	1
C115-117	Not Used			
C118	ECEA1HKS010	1	S	1
C119	ECEA1AKS330	33	S	1
C120	ECEA1HKS010	1	S	1
C121	Not Used			
C122	PQCUV1H821JC	820P	S	1
C123	ECUV1H472KBV	4700P		1
C124	ECUV1H101JCV	100P		1
C125	PQCUV1H822KB	8200P		1
C130	ECEA0JU102	1000		1
C131	PQCUV1C224ZF	0.22		1
C132	Not Used			
C133	ECEA0JU102	1000		1
C134	ECEA1CU221	220		1
C135	ECEA1CK101	100	S	1
C136	ECUV1H103KBV	0.01	S	1
C137	PQCUV1E104MD	0.1	S	1
C138	PQCUV1E104MD	0.1	S	1
C139	PQCUV1E104MD	0.1	S	1
C140	ECEA1CK101	100	S	1
C141~143	Not Used			
C144	PQCUV1H682KB	6800P		1
C145~148	Not Used			
C149	PQCUV1E104MD	0.1	S	1
C150	ECUV1H102KBV	1000P		1
C151	ECUV1H222KBV	2200P		1
C152	ECEA1CKS100	10	S	1
C153	PQCUV1E104MD	0.1	S	1
C154~157	Not Used			
C158	ECUV1H101JCV	100P		1
C159	PQCUV1E104MD	0.1	S	1
C170	PQCUV1E104MD	0.1	S	1
C227	PQCUV1H471JC	470P	S	1
C228	ECUV1H152KBV	1500P		1
C229	PQCUV1H152KB	1500P		1
C238	PQCUV1E104MD	0.1	S	1
C301	ECEA2EHNR47	0.47		1
C302-304	Not Used			
C305	PQCUV1E104MD	0.1	S	1
C306	ECEA1HKS010	1	S	1
C307	PQCUV1E333MD	0.033	S	1
C308	ECEA1HKS3R3	3.3	S	1
C309	ECEA1HU220	22	S	1
C310	ECEA1HKS010	1	S	1
C311	PQCUV1H103KB	0.01	S	1
C312	PQCUV1H102J	1000P	S	1
C313	ECKD2H681KB	680P	S	1
C314	ECKD2H681KB	680P	S	1

Ref. No.	Part No.	Value		Pcs/Set
C350	ECEA1HKS100	10	S	1
C351	ECEA1HKS100	10	S	1
C352	ECUV1E104ZFV	0.1	S	1
C353	ECUV1E104ZFV	0.1	S	1

OPERATION PRINTED CIRCUIT BOARD PARTS

PCB 2	PQWP24026SAH	OPERATION, P.C.BOARD ASS'Y (RTL)	1
		(LEDS)	
LED6	LNJ322GKGAH	LED	1
		(SWITCHES)	
S22	EVQQJJ05Q	SWITCH, HANDSET LOCATOR	1

This replacement parts list is South Africa version only. Refer to the simplified manual (cover) for other areas.

REPLACEMENT PARTS LIST

Model KX-T4026SAR

Notes:

1. RTL (Retention Time Limited)
   The marking (RTL) indicates that the Retention Time is limited for this item. After the discontinuation of this assembly in production, the item will continue to be available for a specific period of time. The retention period of availability is dependent on the type of assembly, and in accordance with the laws governing part and product retention.
   After the end of this period, the assembly will no longer be available.
2. Important safety notice.
   Components identified by ⚠ mark have special characteristics important for safety. When replacing any of these components, use only manufacturer's specified parts.
3. The S mark indicates service standard parts and may differ from production parts.
4. RESISTORS & CAPACITORS
   Unless otherwise specified.
   All resistors are in ohms (Ω) K=1000Ω, M=1000KΩ
   All capacitors are in MICRO FARADS (μF) P= μμF
   *Type &Wattage of Resistor
   Type

ERC:Solid	ERX:Metal Film	PQ4R:Carbon
ERD:Carbon	ERG:Metal Oxide	ERS:Fusible Resistor
PQRD:Carbon	ER0:Metal Film	ERF:Cement Resistor

   Wattage

10,16:1/8W	14,25:1/4W	12:1/2W	1:1W	2:2W	3:3W

   *Type & Voltage of Capacitor
   Type

ECFD:Semi-Conductor	ECCD,ECKD,ECBT,PQCBC : Ceramic
ECQS:Styrol	ECQE,ECQV,ECQG : Polyester
PQCUV:Chip	ECEA,ECSZ : Electrolytic
ECQMS:Mica	ECQP : Polypropylene

   Voltage

ECQ Type	ECQG ECQV Type	ECSZ Type	Others	
1H: 50V	05: 50V	0F:3.15V	0J :6.3V	1V :35V
2A:100V	1:100V	1A:10V	1A :10V	50,1H:50V
2E:250V	2:200V	1V:35V	1C :16V	1J :63V
2H:500V		0J:6.3V	1E,25:25V	2A :100V

Ref. No.	Part No.	Part Name & Description		Pcs
		CABINET PARTS		
100	PQKM10230W2	FRONT CABINET	S	1
101	PQKF10155Z2	CABINET COVER	S	1
102	PQSA10041Y	ANTENNA		1
103	PQAX3P16Z	SPEAKER		1
104	PQSX10028U	12KEY SWITCH		1
105	PQKK10061Z2	BATTERY COVER	S	1
106	PQXA36ASVC	RECHARGEABLE BATTERY		1
107	PQSX10029Y	COVER		1
108	PJHE5065Z	SCREW		2
109	PQGT12586Z	NAME PLATE		1
110	PQHE10084Z	FOAM PAD		1

Ref. No.	Part No.	Part Name & Description		Pcs/Set
		MAIN P.C.BOARD PARTS		
PCB100	PQWPT4026SAR	MAIN, P.C.BOARD ASS'Y (RTL)		1
		(ICS)		
IC1	AN6185NFA	IC		1
IC2	AN6183SAE1	IC		1
IC3	PQVISC78184D	IC		1
IC4	PQVI0006GE02	IC		1
		(TRANSISTORS)		
Q 1	2SK543	TRANSISTOR(SI)		1
Q 2	PQVTMSC2295C	TRANSISTOR(SI)		1
Q 3	2SC2412K	TRANSISTOR(SI)		1
Q 4	PQVTMSC2295C	TRANSISTOR(SI)		1
Q 6	2SD1819A	TRANSISTOR(SI)		1
Q15	2SD1819A	TRANSISTOR(SI)		1
Q16	2SB709A	TRANSISTOR(SI)	S	1
Q17	2SB709A	TRANSISTOR(SI)	S	1
Q21	2SD1819A	TRANSISTOR(SI)		1
Q101	XN1116	TRANSISTOR(SI)		1
		(DIODES)		
D 1	MA840ATAKU	DIODE(SI)		1
D 3	PQVD1SV145	DIODE(SI)		1
D15	PQVDS5688G	DIODE(SI)		1
D16	MA700A	DIODE(SI)		1
D17	MA4068	DIODE(SI)		1
D18	1SS120	DIODE(SI)		1
D19	MA110	DIODE(SI)		1
D20	LNJ330GKGAC	LED		1
D21	LNJ230RKRAC	LED		1
D24	MA4068	DIODE(SI)		1
D30	MA110	DIODE(SI)		1
D34	MA110	DIODE(SI)		1
		(CERAMIC FILTERS)		
CF1	RVFSFE107MSR	CERAMIC FILTER	S	1
CF2	PQVFCFH455F1	CERAMIC FILTER		1
		(COILS AND TRANSFORMERS)		
L 2	PQLQZM1R5K	COIL		1
L 3	ELJFAR68M	COIL		1
L 4	PQLQZM100K	COIL		1
L10	PQLQZM100K	COIL		1
L11	PQLQZM100K	COIL		1
L12	PQLQZM100K	COIL		1
T 1	PQLA7A9	COIL		1

KX-T4026SA

This replacement parts list is South Africa version only. Refer to the simplified manual (cover) for other areas.

Ref. No.	Part No.	Part Name & Description	Pcs/Set
T 2	PQLI2B201	I.F. TRANSFORMER	1
T 3	PQL07A9	COIL	1
T11	PQLA7A7	COIL	1
T13	PQL07A8	COIL	1
		(VARIABLE RESISTORS)	
VR1	EVNDXAA03B15	VARIABLE RESISTOR	1
VR2	EVNDXAA03B35	VARIABLE RESISTOR	1
VR101	EVNDXAA03B55	VARIABLE RESISTOR	1
VR102	EVNDXAA03B15	VARIABLE RESISTOR	1
		(CRYSTALS)	
X1	PQVCJ3992N9Z	CRYSTAL OSCILLATOR	1
X2	PQVCL3276N9Z	CRYSTAL OSCILLATOR	1
X3	PQVCJ10240C5	CRYSTAL OSCILLATOR	1
		(OTHERS)	
CN1	PQJP2D13Z	CONNECTOR	1
DUP1	ELB4Z003S	COIL S	1
E100	PQEFBQM111G3	BUZZER S	1
E101	PQNW10011Z	WASHER	1
E102	PQJM124X	MICROPHONE	1
E103	PQHR10269Z	COVER	1
E104	PQJT10101Z	BATTERY TERMINAL	1
E105	PQJT10102Z	BATTERY TERMINAL	2
E106	PQHE10070Z	MIC SPONGE	1
TC1	ECRLA030E53	TRIMMER CAPACITOR	1
		(RESISTORS)	
R 1	ERJ3GEYJ331	330	1
R 2	ERJ3GEYJ220	22	1
R 3	ERJ3GEYJ393	39K	1
R 4	ERJ3GEYJ470	47	1
R 5	ERJ3GEYJ470	47	1
R 6	ERJ3GEYJ154	150K	1
R 7	ERJ3GEYJ220	22	1
R 8	ERJ3GEYJ220	22	1
R 9	ERJ3GEYJ681	680	1
R10	ERJ3GEYJ223	22K	1
R11	ERJ3GEYJ393	39K	1
R12	ERJ3GEYJ562	5.6K	1
R13	ERJ3GEYJ274	270K	1
R14	ERJ3GEYJ823	82K	1
R15	ERJ3GEYJ104	100K	1
R16	ERJ3GEYJ224	220K	1
R17	ERJ3GEYJ104	100K	1
R18	ERJ3GEYJ223	22K	1
R19	ERJ3GEYJ152	1.5K	1

Ref. No.	Part No.	Value	Pcs/Set
R20	ERJ3GEYJ333	33K	1
R21	Not Used		
R22	Not Used		
R23	ERJ3GEYJ561	560	1
R24	ERJ3GEYJ273	27K	1
R25	ERJ3GEYJ273	27K	1
R26	Not Used		
R27	ERJ3GEYJ124	120K	1
R28	ERJ3GEYJ683	68K	1
R29	ERJ3GEYJ223	22K	1
R30	ERJ3GEYJ103	10K	1
R31	ERJ3GEYJ152	1.5K	1
R32	ERJ3GEYJ823	82K	1
R33	ERJ3GEYJ103	10K	1
R34	ERJ3GEYJ104	100K	1
R35	ERJ3GEYJ393	39K	1
R36	ERJ3GEYJ222	2.2K	1
R37	Not Used		
R38	ERJ3GEYJ123	12K	1
R39	ERJ3GEYJ564	560K	1
R40	ERJ3GEYJ274	270K	1
R41	ERJ3GEYJ103	10K	1
R42	ERJ3GEYJ333	33K	1
R43	ERJ3GEYJ103	10K	1
R44	ERJ3GEYJ683	68K	1
R45	ERJ3GEYJ103	10K	1
R46	ERJ3GEY0R00	0	1
R47	ERJ3GEYJ104	100K	1
R48	ERJ3GEYJ103	10K	1
R49	ERJ3GEYJ104	100K	1
R57	ERJ3GEYJ334	330K	1
R58	ERJ3GEYJ104	100K	1
R59	ERJ3GEYJ334	330K	1
R60	ERJ3GEYJ122	1.2K	1
R61	ERJ3GEYJ334	330K	1
R62-66	Not Used		
R67	ERJ3GEYJ332	3.3K	1
R68	ERJ3GEYJ332	3.3K	1
R74	ERJ3GEYJ104	100K	1
R75	ERJ3GEYJ473	47K	1
R76	ERJ3EKF7502	5K	1
R77	Not Used		
R78	Not Used		
R79	ERJ3GEYJ103	10K	1
R81	ERJ3GEYJ562	5.6K	1
R82	ERJ3GEYJ392	3.9K	1
R83	ERJ3GEYJ104	100K	1
R84	ERJ3GEYJ271	270	1
R85	ERJ3GEYJ120	12	1
R86-88	Not Used		
R89	ERJ3GEYJ103	10K	1
R91	ERJ3GEYJ472	4.7K	1
R92	Not Used		
R93	ERJ3GEYJ681	680	1
R94	ERJ3GEYJ681	680	1
R95	Not Used		
R96	Not Used		

This replacement parts list is South Africa version only. Refer to the simplified manual (cover) for other areas.

Ref. No.	Part No.	Value		Pcs/Set
R97	ERJ3GEYJ562	5.6K		1
R100	ERJ3GEYJ472	4.7K		1
R101	ERJ3GEYJ472	4.7K		1
R102	ERJ3GEYJ104	100K		1
R103	ERJ3GEYJ104	100K		1
R104	ERJ3GEYJ472	4.7K		1
R105	ERJ3GEYJ683	68K		1
R111	ERJ3GEYJ222	2.2K		1
R200	ERJ3GEYJ394	390K		1
R201	ERJ3GEYJ274	270K		1
J 2	ERJ3GEY0R00	0		1
J10	ERJ3GEY0R00	0		1
		(CAPACITORS)		
C 1	ECUV1H103KBV	0.01	S	1
C 2	ECUV1C104ZFV	0.1		1
C 3	ECUV1H180JCV	18P		1
C 4	ECUV1H103KBV	0.01	S	1
C 5	ECUV1H101JCV	100P		1
C 6	ECUV1H220JCV	22P		1
C 7	ECUV1H103KBV	0.01	S	1
C 8	ECUV1H103KBV	0.01	S	1
C 9	ECUV1H100DCV	10P		1
C10	ECUV1H220JCV	22P		1
C11	ECUV1H103KBV	0.01	S	1
C12	ECUV1H470JCV	47P		1
C13	ECUV1H680JCV	68P		1
C14	PQCUV1H330JR	33P		1
C15	ECUV1H150JCV	15P		1
C16	PQCUV1H180JC	18P	S	1
C17	ECUV1H3R0BCV	3		1
C18	ECUV1H102KBV	1000P		1
C19	ECUV1H223KBV	0.022	S	1
C20	ECUV1H223KBV	0.022	S	1
C21-23	Not Used			
C24	ECEA1AKS330	33	S	1
C25	ECUV1H150JCV	15P		1
C26	ECUV1C104KBV	0.1		1
C27	ECEA1CKS100	10		1
C30	ECUV1C104KBV	0.1		1
C31	ECEA1CKS100	10		1
C32	ECEA1HKS2R2	2.2		1
C33	ECUV1H223KBV	0.022	S	1
C34	Not Used			

Ref. No.	Part No.	Value		Pcs/Set
C35	Not Used			
C36	ECEA1CKS100	10	S	1
C37	ECUV1C473KBV	0.047		1
C38	ECUV1H472KBV	4700P		1
C39	ECUV1H103KBV	0.01		1
C40	ECUV1H472KBV	4700P		1
C41	PQCUV1C105ZF	1		1
C42	ECUV1H103KBV	0.01		1
C43	ECUV1H390JCV	39P		1
C44	ECUV1H222KBV	2200P		1
C45	ECEA1CKS100	10		1
C46	PQCUV1E104MD	0.1	S	1
C47	PQCUV1C474ZF	0.47		1
C48	PQCUV1E104MD	0.1	S	1
C49	ECUV1H332KBV	3300P		1
C52	ECEA1CKS470	47	S	1
C53	Not Used			
C54	Not Used			
C55	ECUV1H103KBV	0.01		1
C56	ECUV1H102KBV	1000P		1
C57	ECEA0JKS470	47		1
C58	ECUV1H103KBV	0.01	S	1
C59	ECUV1H103KBV	0.01	S	1
C60	ECUV1C104KBV	0.1		1
C61	ECEA0JKS470	47		1
C62	ECUV1C104KBV	0.1		1
C63	Not Used			
C64	PQCUV1C105ZF	1		1
C65	ECUV1C104ZFV	0.1		1
C66	PQCUV1E104MD	0.1	S	1
C70	ECUV1C104ZFV	0.1		1
C71	ECUV1H220JCV	22P		1
C72	ECUV1H220JCV	22P		1
C73	ECUV1H270JCV	27P		1
C74	ECUV1H270JCV	27P		1
C75	ECUV1H103KBV	0.01	S	1
C76	ECUV1C104ZFV	0.1		1
C80	ECEA0GKS221	220		1
C81	ECUV1C104ZFV	0.1		1
C82	Not Used			
C83	Not Used			
C84	ECUV1H103KBV	0.01	S	1
C85	ECUV1H103KBV	0.01	S	1
C90	ECUV1H103KBV	0.01	S	1
C91	ECUV1H103KBV	0.01	S	1
C92-94	Not Used			
C95	ECUV1H103KBV	0.01	S	1
C200	ECUV1C104KBV	0.1		1
C201	ECUV1H221JCV	220P		1

KX-T4026SA

This replacement parts list is South Africa version only. Refer to the simplified manual (cover) for other areas.

KX-T4026SA				
Ref. No.	Part No.	Part Name & Description		Pcs/Set
ACCESSORIES AND PACKING MATERIALS				
A1	PQJA59V	TELEPHONE CORD	S	1
A2	KX-A09BMX-2	AC ADAPTOR	⚠	1
A3	PQQX11661Z	INSTRUCTION BOOK		1
A4	PQQT11156Y	TEL CARD LABEL		1
A5	PQKL24Z0	STAND	S	1
P1	PQHP89Y	PROTECTION COVER (for Base Unit)		1
P2	XZB11X40A02	PROTECTION COVER (for Portable Handset)		1
P3	PQPK12193Z	GIFT BOX		1
P4	PQPN10551Z	CUSHION		1
FIXTURE AND TOOL				
Z1	PQZZ14K8Z	EXTENSION CORD, 14 PIN		1

Note:

1. PQZZ14K8Z is useful for servicing. (They make servicing easy.)

H(Q)
KXT4026SA-L4
Printed in Japan